

# 23193 SEARCH REQUEST FORM

Requestor's  
Name: BERCH

Serial  
Number: 29/381,758

Date: 8/21/00

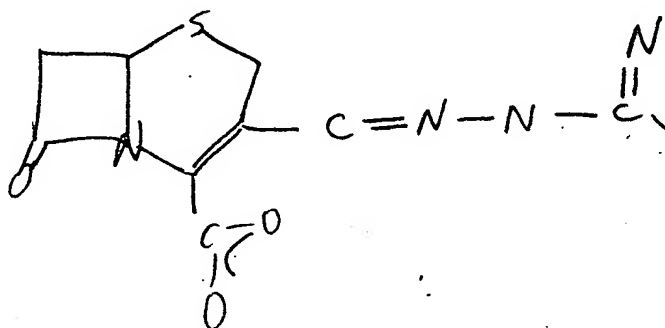
Phone: 478

Art Unit: 1624

4D15

## Search Topic:

Please write a detailed statement of search topic. Describe specifically as possible the subject matter to be searched. Define any terms that may have a special meaning. Give examples or relevant citations, authors, keywords, etc., if known. For sequences, please attach a copy of the sequence. You may include a copy of the broadest and/or most relevant claim(s).



RECEIVED  
AUG 21 2001  
INSTRUMENTAL  
DIVISION

MARY

Point of Contact:  
Mary Hale  
Technical Info. Specialist  
CM1 12D16 Tel: 308-4258

1401  
1355-  
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## STAFF USE ONLY

Date completed: 8/23  
Searcher: Lyndsey  
Terminal time: 7  
Elapsed time: 5  
CPU time: \_\_\_\_\_  
Total time: \_\_\_\_\_  
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1 Structure  
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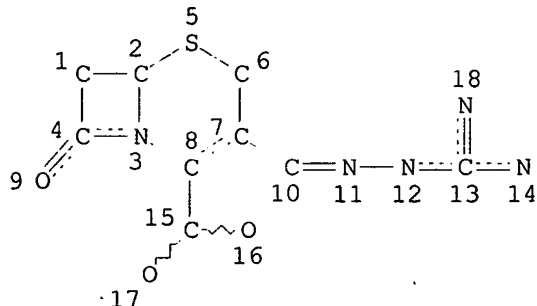
TSCA INFORMATION NOW CURRENT THROUGH JANUARY 11, 2000

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Structure search limits have been increased. See HELP SLIMIT for details.

=> d l3 que stat;d 1-148 ide cbib abs

L1 STR



NODE ATTRIBUTES:

NSPEC IS R AT 14  
DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 18

STEREO ATTRIBUTES: NONE

L3 148 SEA FILE=REGISTRY SSS FUL L1

100.0% PROCESSED 422 ITERATIONS  
SEARCH TIME: 00.00.01

148 ANSWERS

L3 ANSWER 1 OF 148 REGISTRY COPYRIGHT 2000 ACS  
RN 214055-89-7 REGISTRY  
CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,

7-[[[(2Z)-(5-amino-1,2,4-thiadiazol-3-yl){[(fluoromethoxy)imino]acetyl]amino  
]-3-[(E)-[(imino-1-piperazinylmethyl)methylhydrazono]methyl]-8-oxo-,  
trihydrochloride, (6R,7R)- (9CI) (CA INDEX NAME)

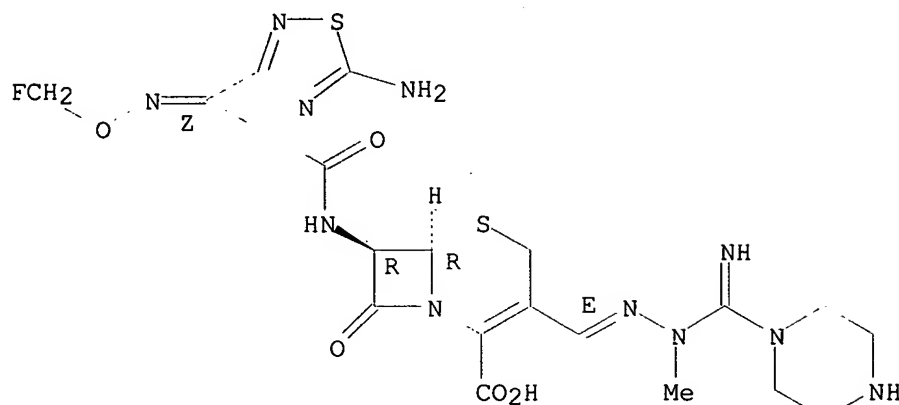
FS STEREOSEARCH

MF C19 H24 F N11 O5 S2 . 3 Cl H

SR CA

LC STN Files: CA, CAPLUS

Absolute stereochemistry.  
Double bond geometry as shown.



● 3 HCl

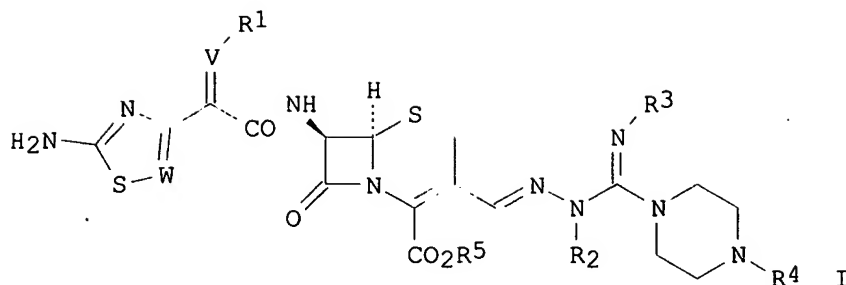
1 REFERENCES IN FILE CA (1967 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 129:275783 synthesis of antibacterial substituted  
acylamino(methylhydrazono)methylcephalosporins and intermediates.

Ascher,

Gerd; Wieser, Josef; Schranz, Michael; Ludescher, Johannes; Hildebrandt, Johannes (Biochemie G.m.b.H., Austria). PCT Int. Appl. WO 9843981 A1 19981008, 46 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1998-EP1890 19980401. PRIORITY: AT 1997-546 19970401; AT 1997-547 19970401; AT 1997-548 19970401.

GI



AB Synthesis of cephalosporins (I) [R1 = H, acyl, carboxyl, alkyl; R2, R3 = H, cycloalkyl, alkyl, alkenyl, alkynyl; R4 = H, C(=Z)R6; R6 = NH2, NHH2, aminoalkylamino, alkoxy, aryl, cycloaryl, aryloxy, heterocyclyl, alkyl, alkenyl, alkynyl; R5 = H, ester moiety; W = CH, N; V = CH, NO; Z = O, S, NR7; R7 = R2] for use as antibacterials is described. Thus, I (R1 = OCH2F; R2 = Me; R3, R4, R5 = H; W, V = N) is prepd. in 3 steps by acylation of 7-amino-3-formyl-3-cephem-4-carboxylic acid with (5-amino-1,2,4-thiadiazol-3-yl)-(Z)-2-fluoromethoxyiminoacetic acid, reaction of this intermediate with 1-(1-methylhydrazino)iminomethylpiperazine dihydrochloride followed by chromatog.

L3 ANSWER 2 OF 148 REGISTRY COPYRIGHT 2000 ACS  
 RN 214055-86-4 REGISTRY  
 CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,

7-[[ (2Z)-(5-amino-1,2,4-thiadiazol-3-yl) [(fluoromethoxy)imino]acetyl]amino]-3-[[ (imino-1-piperazinylmethyl)hydrazono]methyl]-8-oxo-, 1-[[ (1-methylethoxy)carbonyl]oxy]ethyl ester, dihydrochloride, (6R,7R)-(9CI) (CA INDEX NAME)

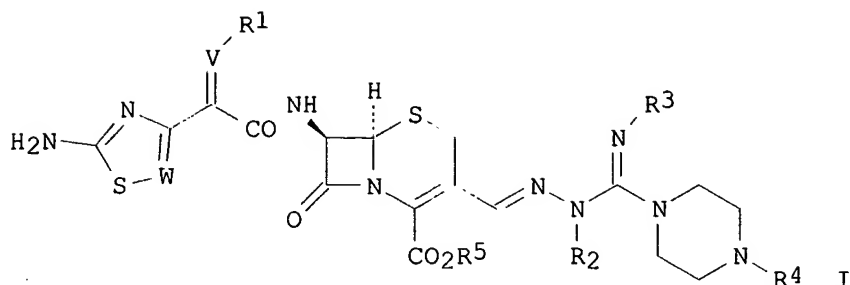
FS STEREOSEARCH  
 MF C24 H32 F N11 O8 S2 . 2 Cl H  
 SR CA  
 LC STN Files: CA, CAPLUS

Absolute stereochemistry.  
 Double bond geometry as described by E or Z.

REFERENCE 1: 129:275783 synthesis of antibacterial substituted acylamino(methylhydrazono)methylcephalosporins and intermediates.

Gerd; Wieser, Josef; Schranz, Michael; Ludescher, Johannes; Hildebrandt, Johannes (Biochemie G.m.b.H., Austria). PCT Int. Appl. WO 9843981 A1 19981008, 46 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1998-EP1890 19980401. PRIORITY: AT 1997-546 19970401; AT 1997-547 19970401; AT 1997-548 19970401.

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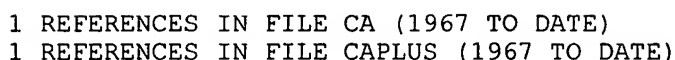
AB Synthesis of cephalosporins (I) [R1 = H, acyl, carboxyl, alkyl; R2, R3 = H, cycloalkyl, alkyl, alkenyl, alkynyl; R4 = H, C(=Z)R6; R6 = NH2, NHH2, aminoalkylamino, alkoxy, aryl, cycloaryl, aryloxy, heterocyclyl, alkyl, alkenyl, alkynyl; R5 = H, ester moiety; W = CH, N; V = CH, NO; Z = O, S, NR7; R7 = R2] for use as antibacterials is described. Thus, I (R1 = OCH2F; R2 = Me; R3, R4, R5 = H; W, V = N) is prepd. in 3 steps by acylation of 7-amino-3-formyl-3-cephem-4-carboxylic acid with (5-amino-1,2,4-thiadiazol-3-yl)-(Z)-2-fluoromethoxyiminoacetic acid, reaction of this intermediate with 1-(1-methylhydrazino)iminomethylpiperazine dihydrochloride followed by chromatog.

L3 ANSWER 3 OF 148 REGISTRY COPYRIGHT 2000 ACS  
 RN 214055-83-1 REGISTRY  
 CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,

7-[[ (2Z)-(5-amino-1,2,4-thiadiazol-3-yl) [(fluoromethoxy)imino]acetyl]amino  
 ]-3-[[ (imino-1-piperazinylmethyl)hydrazono]methyl]-8-oxo-,  
 (2,2-dimethyl-1-oxopropoxy)methyl ester, (6R,7R)- (9CI) (CA INDEX NAME)

FS STEREOSEARCH  
 MF C24 H32 F N11 O7 S2  
 SR CA  
 LC STN Files: CA, CAPLUS

Absolute stereochemistry.  
 Double bond geometry as described by E or Z.



Gerd; Wieser, Josef; Schranz, Michael; Ludescher, Johannes; Hildebrandt, Johannes (Biochemie G.m.b.H., Austria). PCT Int. Appl. WO 9843981 A1 19981008, 46 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1998-EP1890 19980401. PRIORITY: AT 1997-546 19970401; AT 1997-547 19970401; AT 1997-548 19970401.

[illegible]

AB Synthesis of cephalosporins (I) [R1 = H, acyl, carboxyl, alkyl; R2, R3 = H, cycloalkyl, alkyl, alkenyl, alkynyl; R4 = H, C(=Z)R6; R6 = NH2, NHH2, aminoalkylamino, alkoxy, aryl, cycloaryl, aryloxy, heterocyclyl, alkyl, alkenyl, alkynyl; R5 = H, ester moiety; W = CH, N; V = CH, NO; Z = O, S, NR7; R7 = R2] for use as antibacterials is described. Thus, I (R1 =

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OCH<sub>2</sub>F; R<sub>2</sub> = Me; R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub> = H; W, V = N) is prepd. in 3 steps by acylation of 7-amino-3-formyl-3-cephem-4-carboxylic acid with (5-amino-1,2,4-thiadiazol-3-yl)-(Z)-2-fluoromethoxyiminoacetic acid, reaction of this intermediate with 1-(1-methylhydrazino)iminomethylpiperazine dihydrochloride followed by chromatog.

L3 ANSWER 4 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 214055-82-0 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,

3-[[[4-[amino(4-hydroxyphenyl)acetyl]-1-piperazinyl]iminomethyl]hydrazono]methyl]-7-[[[(2Z)-(5-amino-1,2,4-thiadiazol-3-yl)[(fluoromethoxy)imino]acetyl]amino]-8-oxo-, (2,2-dimethyl-1-oxopropoxy)methyl ester, (6R,7R)- (9CI) (CA INDEX NAME)

FS STEREOSEARCH

MF C32 H39 F N12 O9 S2

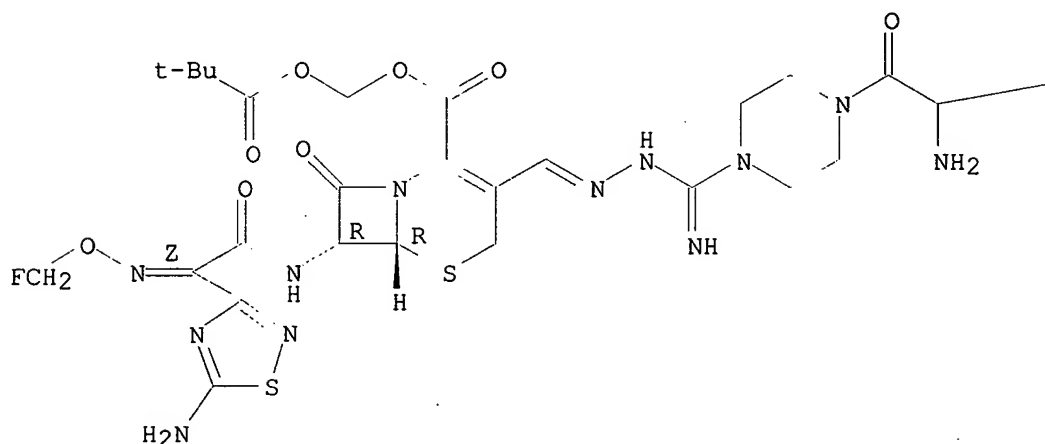
SR CA

LC STN Files: CA, CAPLUS

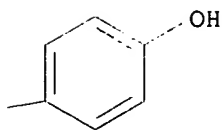
Absolute stereochemistry.

Double bond geometry as described by E or Z.

PAGE 1-A



PAGE 1-B



1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

Prepared by M. Hale 308-4258

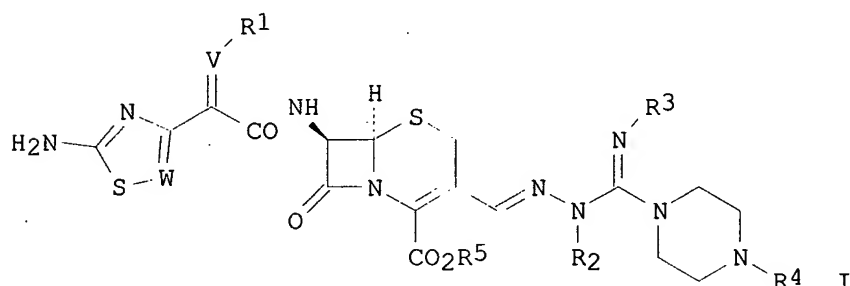
Page 61

REFERENCE 1: 129:275783 synthesis of antibacterial substituted acylamino(methylhydrazono)methylcephalosporins and intermediates.

Ascher,

Gerd; Wieser, Josef; Schranz, Michael; Ludescher, Johannes; Hildebrandt, Johannes (Biochemie G.m.b.H., Austria). PCT Int. Appl. WO 9843981 A1 19981008, 46 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1998-EP1890 19980401. PRIORITY: AT 1997-546 19970401; AT 1997-547 19970401; AT 1997-548 19970401.

GI



AB Synthesis of cephalosporins (I) [R1 = H, acyl, carboxyl, alkyl; R2, R3 = H, cycloalkyl, alkyl, alkenyl, alkynyl; R4 = H, C(=Z)R6; R6 = NH2, NHNH2, aminoalkylamino, alkoxy, aryl, cycloaryl, aryloxy, heterocyclyl, alkyl, alkenyl, alkynyl; R5 = H, ester moiety; W = CH, N; V = CH, NO; Z = O, S, NR7; R7 = R2] for use as antibacterials is described. Thus, I (R1 = OCH2F; R2 = Me; R3, R4, R5 = H; W, V = N) is prepd. in 3 steps by acylation of 7-amino-3-formyl-3-cephem-4-carboxylic acid with (5-amino-1,2,4-thiadiazol-3-yl)-(Z)-2-fluoromethoxyiminoacetic acid, reaction of this intermediate with 1-(1-methylhydrazino)iminomethylpiperazine dihydrochloride followed by chromatog.

L3 ANSWER 5 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 214055-81-9 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,

3-[[[4-[amino(4-hydroxyphenyl)acetyl]-1-piperazinyl]iminomethyl]hydrazono]methyl]-7-[[ (2Z)-(5-amino-1,2,4-thiadiazol-3-yl) [(fluoromethoxy)imino]acetyl]amino]-8-oxo-, 1-[[ (1-methylethoxy)carbonyl]oxy]ethyl ester, (6R,7R)- (9CI) (CA INDEX NAME)

FS STEREOSEARCH

MF C32 H39 F N12 O10 S2

SR CA

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Page 62

Absolute stereochemistry.  
Double bond geometry as described by E or Z.

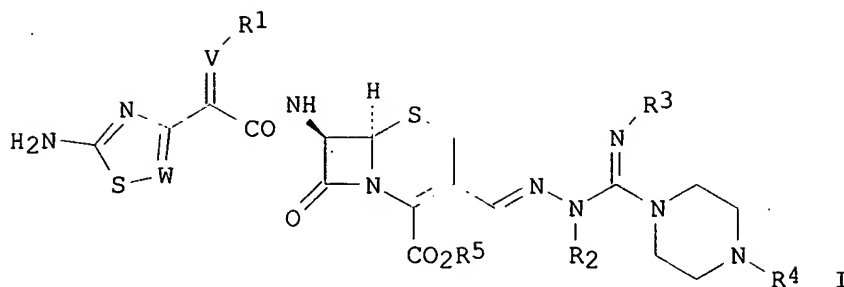
The chemical structure is a complex molecule with several key features:

- 1,3,4-thiadiazole ring:** A five-membered ring containing two nitrogen atoms and one sulfur atom. It is substituted with an amino group ( $\text{H}_2\text{N}$ ) at position 5 and a carbonyl group ( $\text{C=O}$ ) at position 2.
- Carbamate group:** Attached to the carbonyl carbon of the thiadiazole ring is a carbamate group ( $\text{O-C(=O)-O-}$ ), which is further substituted with an isopropyl group ( $\text{i-PrO}$ ).
- Thioether linkage:** A sulfur atom ( $\text{S}$ ) is connected to the thiadiazole ring via a thioether linkage ( $\text{-S-}$ ).
- Piperazine ring:** A six-membered ring containing two nitrogen atoms. One nitrogen is substituted with a carbonyl group ( $\text{C=O}$ ), which is further substituted with an amino group ( $\text{NH}_2$ ).
- Other substituents:** The piperazine ring is also substituted with a methyl group ( $\text{Me}$ ) and a thioether linkage ( $\text{-S-}$ ).

Oc1ccc(C)cc1

Ascher, Gerd; Wieser, Josef; Schranz, Michael; Ludescher, Johannes; Hildebrandt, Johannes (Biochemie G.m.b.H., Austria). PCT Int. Appl. WO 9843981 A1 19981008, 46 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1998-EP1890 19980401. PRIORITY: AT 1997-546 19970401; AT 1997-547 19970401; AT 1997-548 19970401.

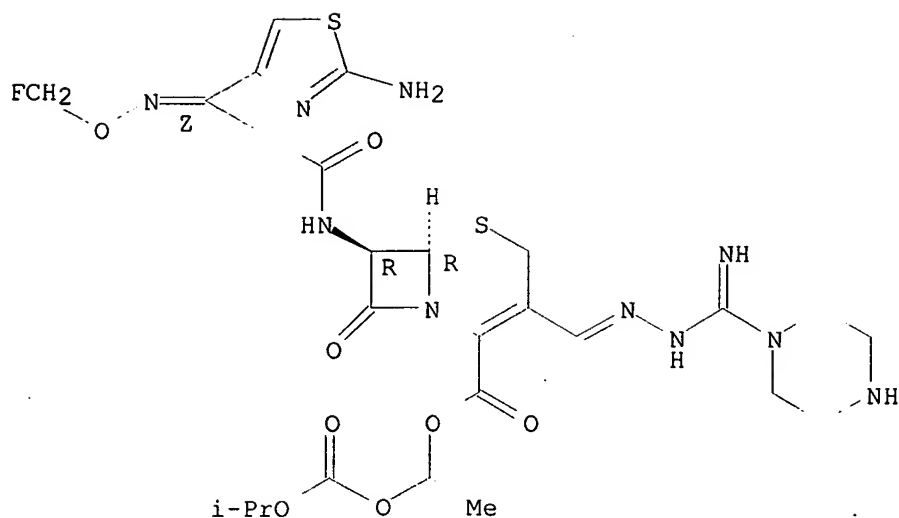
Page 63



AB Synthesis of cephalosporins (I) [R1 = H, acyl, carboxyl, alkyl; R2, R3 = H, cycloalkyl, alkyl, alkenyl, alkynyl; R4 = H, C(=Z)R6; R6 = NH2, NHH2, aminoalkylamino, alkoxy, aryl, cycloaryl, aryloxy, heterocyclyl, alkyl, alkenyl, alkynyl; R5 = H, ester moiety; W = CH, N; V = CH, NO; Z = O, S, NR7; R7 = R2] for use as antibacterials is described. Thus, I (R1 = OCH2F; R2 = Me; R3, R4, R5 = H; W, V = N) is prepd. in 3 steps by acylation of 7-amino-3-formyl-3-cephem-4-carboxylic acid with (5-amino-1,2,4-thiadiazol-3-yl)-(Z)-2-fluoromethoxyiminoacetic acid, reaction of this intermediate with 1-(1-methylhydrazino)iminomethylpiperazine dihydrochloride followed by chromatog.

L3 ANSWER 6 OF 148 REGISTRY COPYRIGHT 2000 ACS  
 RN 214055-80-8 REGISTRY  
 CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[[(2Z)-(2-amino-4-thiazolyl)[(fluoromethoxy)imino]acetyl]amino]-3-[[[(imino-1-piperazinylmethyl)hydrazono]methyl]-8-oxo-, 1-[[[(1-methylethoxy)carbonyl]oxy]ethyl ester, (6R,7R)- (9CI) (CA INDEX NAME)  
 FS STEREOSEARCH  
 MF C25 H33 F N10 O8 S2  
 SR CA  
 LC STN Files: CA, CAPLUS

Absolute stereochemistry.  
 Double bond geometry as described by E or Z.



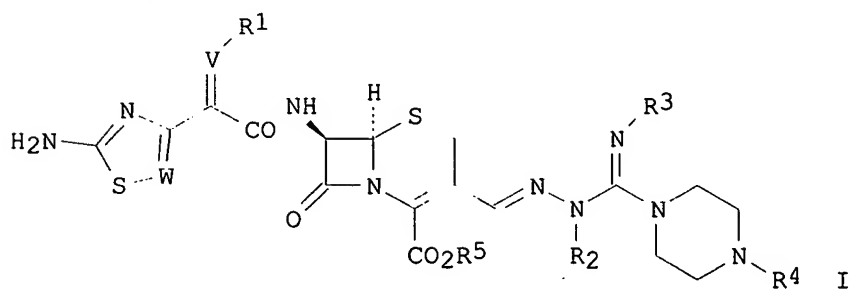
1 REFERENCES IN FILE CA (1967 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 129:275783 synthesis of antibacterial substituted  
acylamino(methylhydrazono)methylcephalosporins and intermediates.

Ascher,

Gerd; Wieser, Josef; Schranz, Michael; Ludescher, Johannes; Hildebrandt, Johannes (Biochemie G.m.b.H., Austria). PCT Int. Appl. WO 9843981 A1 19981008, 46 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1998-EP1890 19980401. PRIORITY: AT 1997-546 19970401; AT 1997-547 19970401; AT 1997-548 19970401.

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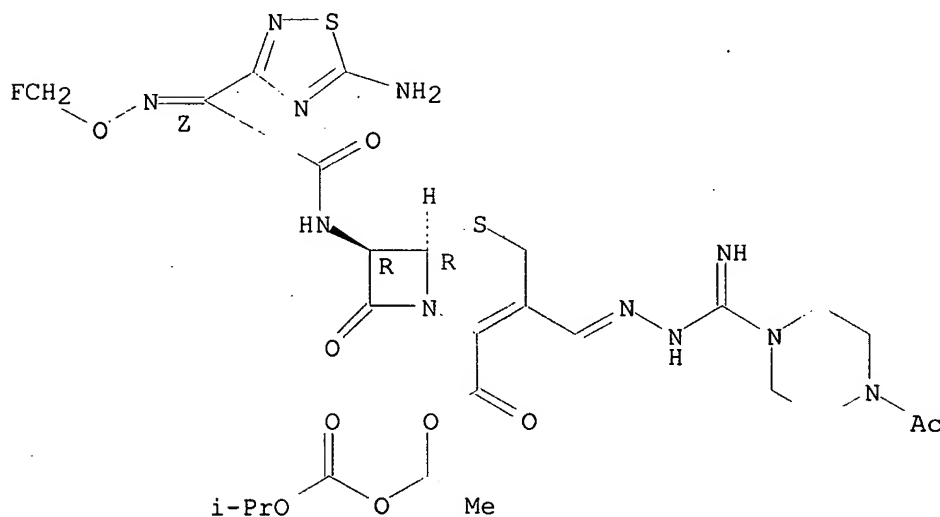


AB Synthesis of cephalosporins (I) [R1 = H, acyl, carboxyl, alkyl; R2, R3 = H, cycloalkyl, alkyl, alkenyl, alkynyl; R4 = H, C(=Z)R6; R6 = NH2, NHH2, Page 65  
Prepared by M. Hale 308-4258

aminoalkylamino, alkoxy, aryl, cycloaryl, aryloxy, heterocyclyl, alkyl, alkenyl, alkynyl; R5 = H, ester moiety; W = CH, N; V = CH, NO; Z = O, S, NR7; R7 = R2] for use as antibacterials is described. Thus, I (R1 = OCH2F; R2 = Me; R3, R4, R5 = H; W, V = N) is prepd. in 3 steps by acylation of 7-amino-3-formyl-3-cephem-4-carboxylic acid with (5-amino-1,2,4-thiadiazol-3-yl)-(Z)-2-fluoromethoxyiminoacetic acid, reaction of this intermediate with 1-(1-methylhydrazino)iminomethylpiperazine dihydrochloride followed by chromatog.

L3 ANSWER 7 OF 148 REGISTRY COPYRIGHT 2000 ACS  
 RN 214055-79-5 REGISTRY  
 CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 3-[[[(4-acetyl-1-piperazinyl)iminomethyl]hydrazono]methyl]-7-[[{(2Z)-(5-amino-1,2,4-thiadiazol-3-yl)[(fluoromethoxy)imino]acetyl]amino]-8-oxo-, 1-[[{(1-methylethoxy)carbonyl]oxy]ethyl ester, (6R,7R)- (9CI) (CA INDEX NAME)  
 FS STEREOSEARCH  
 MF C26 H34 F N11 O9 S2  
 SR CA  
 LC STN Files: CA, CAPLUS

Absolute stereochemistry.  
 Double bond geometry as described by E or Z.



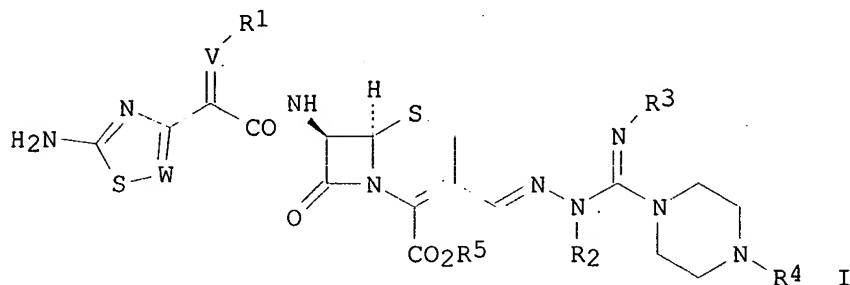
1 REFERENCES IN FILE CA (1967 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 129:275783 synthesis of antibacterial substituted acylamino(methylhydrazono)methylcephalosporins and intermediates.

Ascher, Gerd; Wieser, Josef; Schranz, Michael; Ludescher, Johannes; Hildebrandt, Johannes (Biochemie G.m.b.H., Austria). PCT Int. Appl. WO 9843981 A1 19981008, 46 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, Prepared by M. Hale 308-4258 Page 66

BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1998-EP1890 19980401. PRIORITY: AT 1997-546 19970401; AT 1997-547 19970401; AT 1997-548 19970401.

GI



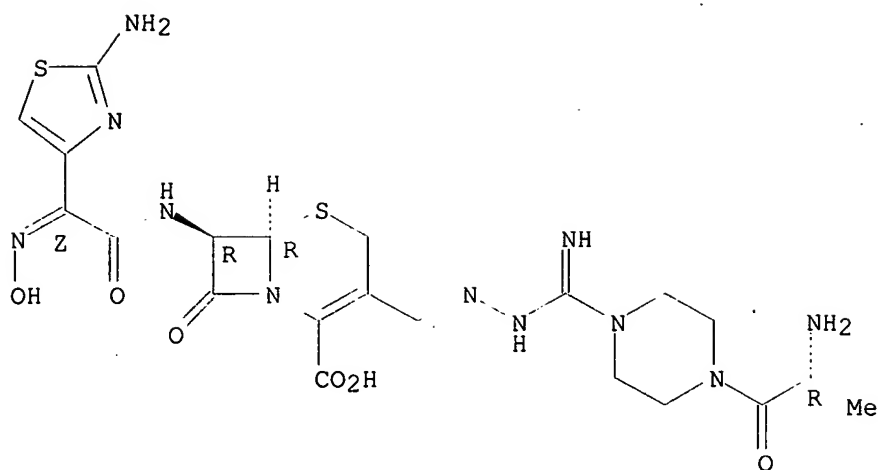
AB Synthesis of cephalosporins (I) [R1 = H, acyl, carboxyl, alkyl; R2, R3 = H, cycloalkyl, alkyl, alkenyl, alkynyl; R4 = H, C(=Z)R6; R6 = NH2, NHNH2, aminoalkylamino, alkoxy, aryl, cycloaryl, aryloxy, heterocyclyl, alkyl, alkenyl, alkynyl; R5 = H, ester moiety; W = CH, N; V = CH, NO; Z = O, S, NR7; R7 = R2] for use as antibacterials is described. Thus, I (R1 = OCH2F; R2 = Me; R3, R4, R5 = H; W, V = N) is prepd. in 3 steps by acylation of 7-amino-3-formyl-3-cephem-4-carboxylic acid with (5-amino-1,2,4-thiadiazol-3-yl)-(Z)-2-fluoromethoxyiminoacetic acid, reaction of this intermediate with 1-(1-methylhydrazino)iminomethylpiperazine dihydrochloride followed by chromatog.

L3 ANSWER 8 OF 148 REGISTRY COPYRIGHT 2000 ACS  
RN 214055-78-4 REGISTRY  
CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,

3-[[[4-[(2R)-2-amino-1-oxopropyl]-1-piperazinyl]iminomethyl]hydrazono]methyl]-7-[[[(2Z)-(2-amino-4-thiazolyl)(hydroxyimino)acetyl]amino]-8-oxo-, trihydrochloride, (6R,7R)- (9CI) (CA INDEX NAME)

FS STEREOSEARCH  
MF C21 H27 N11 O6 S2 . 3 Cl H  
SR CA  
LC STN Files: CA, CAPLUS

Absolute stereochemistry.  
Double bond geometry as described by E or Z.



● 3 HCl

1 REFERENCES IN FILE CA (1967 TO DATE)

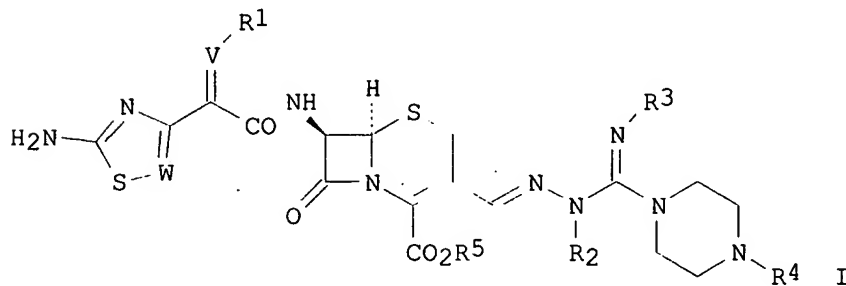
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 129:275783 synthesis of antibacterial substituted acylamino(methylhydrazono)methylcephalosporins and intermediates.

Ascher,

Gerd; Wieser, Josef; Schranz, Michael; Ludescher, Johannes; Hildebrandt, Johannes (Biochemie G.m.b.H., Austria). PCT Int. Appl. WO 9843981 A1 19981008, 46 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1998-EP1890 19980401. PRIORITY: AT 1997-546 19970401; AT 1997-547 19970401; AT 1997-548 19970401.

GI



Prepared by M. Hale 308-4258

Page 68

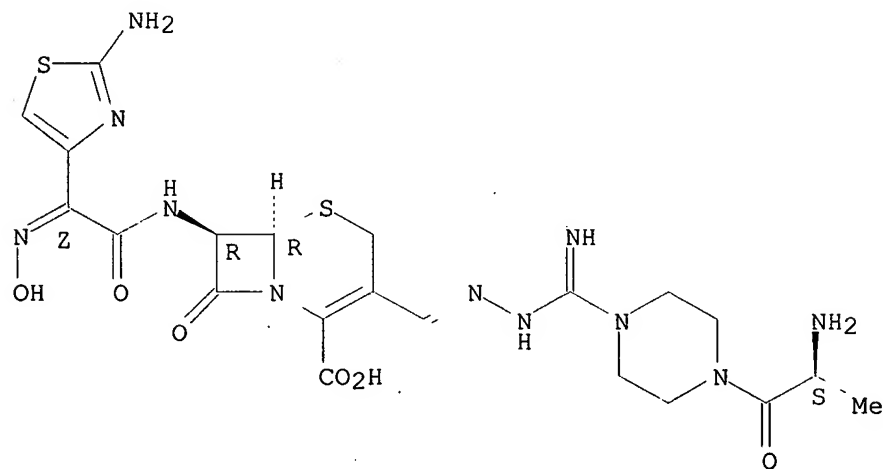
AB Synthesis of cephalosporins (I) [R1 = H, acyl, carboxyl, alkyl; R2, R3 = H, cycloalkyl, alkyl, alkenyl, alkynyl; R4 = H, C(=Z)R6; R6 = NH2, NHHN2, aminoalkylamino, alkoxy, aryl, cycloaryl, aryloxy, heterocyclyl, alkyl, alkenyl, alkynyl; R5 = H, ester moiety; W = CH, N; V = CH, NO; Z = O, S, NR7; R7 = R2] for use as antibacterials is described. Thus, I (R1 = OCH2F; R2 = Me; R3, R4, R5 = H; W, V = N) is prepd. in 3 steps by acylation of 7-amino-3-formyl-3-cephem-4-carboxylic acid with (5-amino-1,2,4-thiadiazol-3-yl)-(Z)-2-fluoromethoxyiminoacetic acid, reaction of this intermediate with 1-(1-methylhydrazino)iminomethylpiperazine dihydrochloride followed by chromatog.

L3 ANSWER 9 OF 148 REGISTRY COPYRIGHT 2000 ACS  
 RN 214055-77-3 REGISTRY  
 CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,

3-[[[4-[(2S)-2-amino-1-oxopropyl]-1-piperazinyl]iminomethyl]hydrazono]methyl-7-[[[(2Z)-(2-amino-4-thiazolyl)(hydroxyimino)acetyl]amino]-8-oxo-, trihydrochloride, (6R,7R)- (9CI) (CA INDEX NAME)

FS STEREOSEARCH  
 MF C21 H27 N11 O6 S2 . 3 Cl H  
 SR CA  
 LC STN Files: CA, CAPLUS

Absolute stereochemistry.  
 Double bond geometry as described by E or Z.



• 3 HCl

1 REFERENCES IN FILE CA (1967 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

Prepared by M. Hale 308-4258

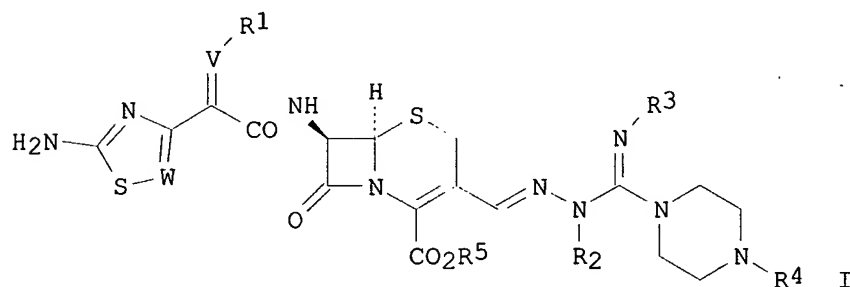
Page 69

REFERENCE 1: 129:275783 synthesis of antibacterial substituted acylamino(methylhydrazono)methylcephalosporins and intermediates.

Ascher,

Gerd; Wieser, Josef; Schranz, Michael; Ludescher, Johannes; Hildebrandt, Johannes (Biochemie G.m.b.H., Austria). PCT Int. Appl. WO 9843981 A1 19981008, 46 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1998-EP1890 19980401. PRIORITY: AT 1997-546 19970401; AT 1997-547 19970401; AT 1997-548 19970401.

GI



AB Synthesis of cephalosporins (I) [R1 = H, acyl, carboxyl, alkyl; R2, R3 = H, cycloalkyl, alkyl, alkenyl, alkynyl; R4 = H, C(=Z)R6; R6 = NH2, NHH2, aminoalkylamino, alkoxy, aryl, cycloaryl, aryloxy, heterocyclyl, alkyl, alkenyl, alkynyl; R5 = H, ester moiety; W = CH, N; V = CH, NO; Z = O, S, NR7; R7 = R2] for use as antibacterials is described. Thus, I (R1 = OCH2F; R2 = Me; R3, R4, R5 = H; W, V = N) is prepd. in 3 steps by acylation of 7-amino-3-formyl-3-cephem-4-carboxylic acid with (5-amino-1,2,4-thiadiazol-3-yl)-(Z)-2-fluoromethoxyiminoacetic acid, reaction of this intermediate with 1-(1-methylhydrazino)iminomethylpiperazine dihydrochloride followed by chromatog.

L3 ANSWER 10 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 214055-76-2 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,

7-[[[(2Z)-(5-amino-1,2,4-thiadiazol-3-yl)](fluoromethoxy)imino]acetyl]amino

]-3-[[[imino[4-(3,4,5-trimethoxybenzoyl)-1-piperazinyl]methyl]hydrazono]methyl]-8-oxo-, dihydrochloride, (6R,7R)- (9CI) (CA INDEX NAME)

FS STEREOSEARCH

MF C28 H32 F N11 O9 S2 . 2 C1 H

SR CA

LC STN Files: CA, CAPLUS

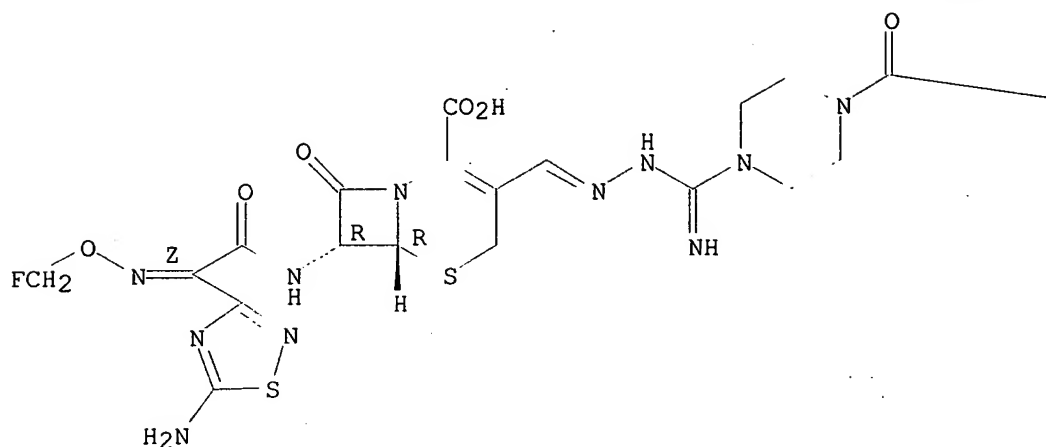
Absolute stereochemistry.

Prepared by M. Hale 308-4258

Page 70

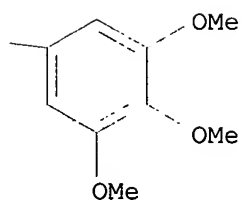
Double bond geometry as described by E or Z.

PAGE 1-A



• 2 HCl

PAGE 1-B



1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 129:275783 synthesis of antibacterial substituted  
acylamino(methylhydrazono)methylcephalosporins and intermediates.

Ascher,

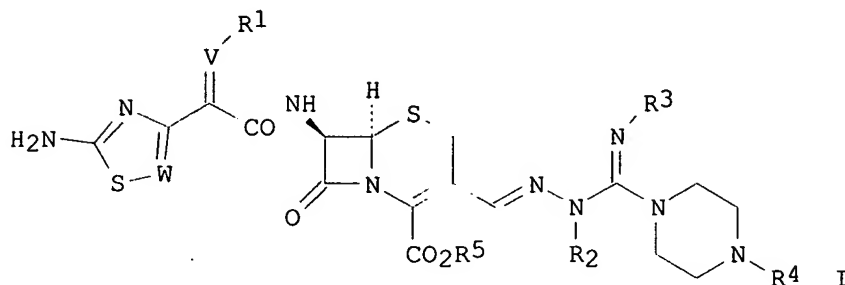
Gerd; Wieser, Josef; Schranz, Michael; Ludescher, Johannes; Hildebrandt, Johannes (Biochemie G.m.b.H., Austria). PCT Int. Appl. WO 9843981 A1 19981008, 46 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English)

Prepared by M. Hale 308-4258

Page 71

CODEN: PIXXD2. APPLICATION: WO 1998-EP1890 19980401. PRIORITY: AT 1997-546 19970401; AT 1997-547 19970401; AT 1997-548 19970401.

GI



AB Synthesis of cephalosporins (I) [R1 = H, acyl, carboxyl, alkyl; R2, R3 = H, cycloalkyl, alkyl, alkenyl, alkynyl; R4 = H, C(=Z)R6; R6 = NH2, NHH2, aminoalkylamino, alkoxy, aryl, cycloaryl, aryloxy, heterocyclyl, alkyl, alkenyl, alkynyl; R5 = H, ester moiety; W = CH, N; V = CH, NO; Z = O, S, NR7; R7 = R2] for use as antibacterials is described. Thus, I (R1 = OCH2F; R2 = Me; R3, R4, R5 = H; W, V = N) is prepd. in 3 steps by acylation of 7-amino-3-formyl-3-cephem-4-carboxylic acid with (5-amino-1,2,4-thiadiazol-3-yl)-(Z)-2-fluoromethoxyiminoacetic acid, reaction of this intermediate with 1-(1-methylhydrazino)iminomethylpiperazine dihydrochloride followed by chromatog.

L3 ANSWER 11 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 214055-75-1 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[[(2Z)-(2-amino-4-thiazolyl)(hydroxyimino)acetyl]amino]-3-[[[imino[4-(3,4,5-trimethoxybenzoyl)-1-piperazinyl]methyl]hydrazono]methyl]-8-oxo-, dihydrochloride, (6R,7R)- (9CI) (CA INDEX NAME)

ES STEREOSEARCH

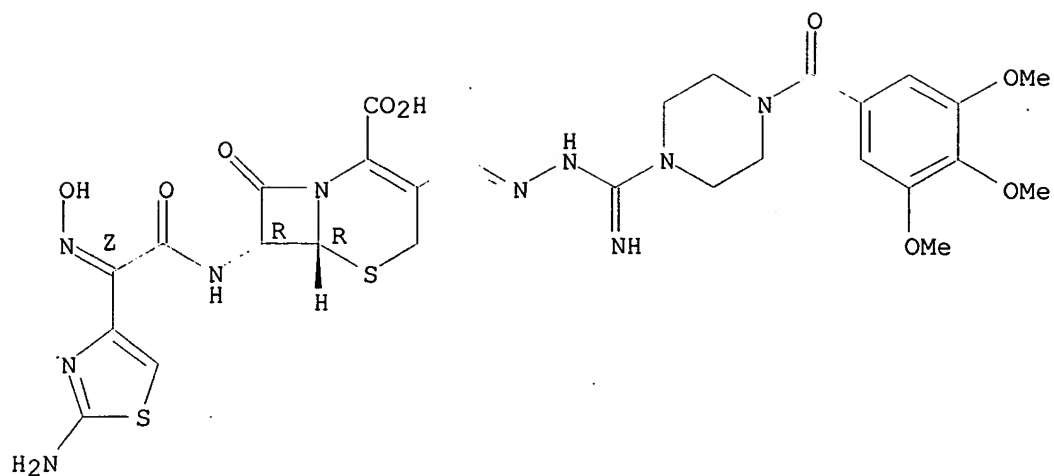
MF C28 H32 N10 O9 S2 . 2 Cl H

SR CA

LC STN Files: CA, CAPLUS

Absolute stereochemistry.

Double bond geometry as described by E or Z.



● 2 HCl

1 REFERENCES IN FILE CA (1967 TO DATE)

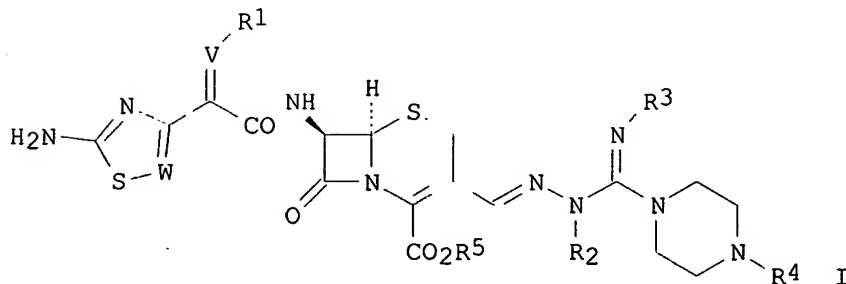
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 129:275783 synthesis of antibacterial substituted acylamino(methylhydrazono)methylcephalosporins and intermediates.

Ascher,

Gerd; Wieser, Josef; Schranz, Michael; Ludescher, Johannes; Hildebrandt, Johannes (Biochemie G.m.b.H., Austria). PCT Int. Appl. WO 9843981 A1 19981008, 46 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1998-EP1890 19980401. PRIORITY: AT 1997-546 19970401; AT 1997-547 19970401; AT 1997-548 19970401.

GI



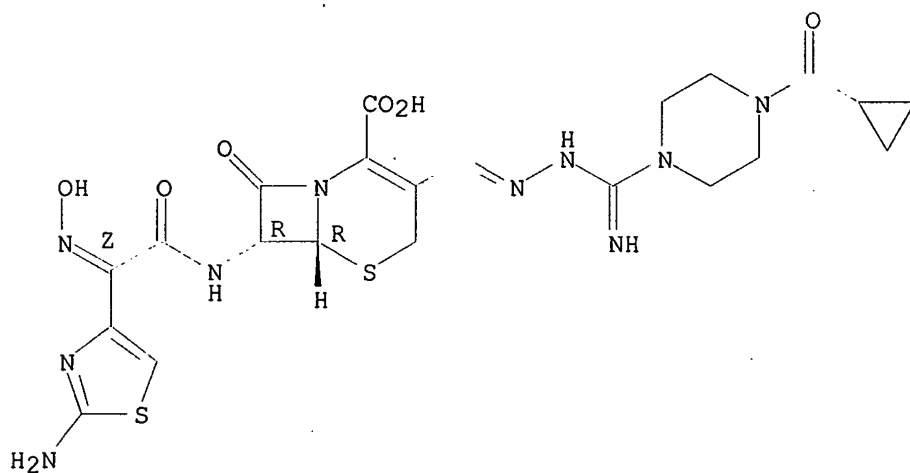
Prepared by M. Hale 308-4258

Page 73

AB Synthesis of cephalosporins (I) [R1 = H, acyl, carboxyl, alkyl; R2, R3 = H, cycloalkyl, alkyl, alkenyl, alkynyl; R4 = H, C(=Z)R6; R6 = NH2, NHH2, aminoalkylamino, alkoxy, aryl, cycloaryl, aryloxy, heterocyclyl, alkyl, alkenyl, alkynyl; R5 = H, ester moiety; W = CH, N; V = CH, NO; Z = O, S, NR7; R7 = R2] for use as antibacterials is described. Thus, I (R1 = OCH2F; R2 = Me; R3, R4, R5 = H; W, V = N) is prepd. in 3 steps by acylation of 7-amino-3-formyl-3-cephem-4-carboxylic acid with (5-amino-1,2,4-thiadiazol-3-yl)-(Z)-2-fluoromethoxyiminoacetic acid, reaction of this intermediate with 1-(1-methylhydrazino)iminomethylpiperazine dihydrochloride followed by chromatog.

L3 ANSWER 12 OF 148 REGISTRY COPYRIGHT 2000 ACS  
 RN 214055-74-0 REGISTRY  
 CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[[(2Z)-(2-amino-4-thiazolyl)(hydroxyimino)acetyl]amino]-3-[[[4-(cyclopropylcarbonyl)-1-piperazinyl]iminomethyl]hydrazono]methyl]-8-oxo-, dihydrochloride, (6R,7R)- (9CI) (CA INDEX NAME)  
 FS STEREOSEARCH  
 MF C22 H26 N10 O6 S2 . 2 Cl H  
 SR CA  
 LC STN Files: CA, CAPLUS

Absolute stereochemistry.  
 Double bond geometry as described by E or Z.



● 2 HCl

1 REFERENCES IN FILE CA (1967 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

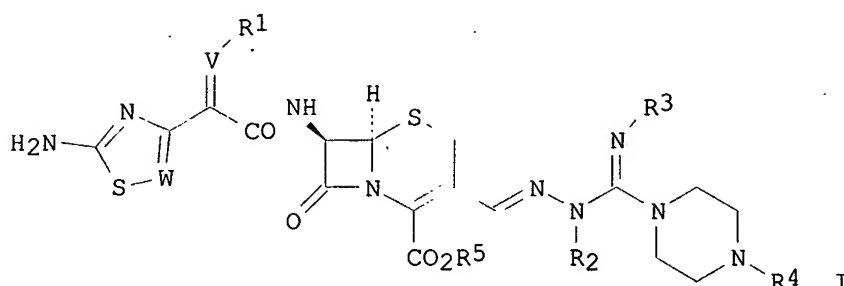
REFERENCE 1: 129:275783 synthesis of antibacterial substituted  
 Prepared by M. Hale 308-4258

acylamino(methylhydrazono)methylcephalosporins and intermediates.

Ascher,

Gerd; Wieser, Josef; Schranz, Michael; Ludescher, Johannes; Hildebrandt, Johannes (Biochemie G.m.b.H., Austria). PCT Int. Appl. WO 9843981 A1 19981008, 46 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1998-EP1890 19980401. PRIORITY: AT 1997-546 19970401; AT 1997-547 19970401; AT 1997-548 19970401.

GI



AB Synthesis of cephalosporins (I) [R<sub>1</sub> = H, acyl, carboxyl, alkyl; R<sub>2</sub>, R<sub>3</sub> = H, cycloalkyl, alkyl, alkenyl, alkynyl; R<sub>4</sub> = H, C(=Z)R<sub>6</sub>; R<sub>6</sub> = NH<sub>2</sub>, NHHN<sub>2</sub>, aminoalkylamino, alkoxy, aryl, cycloaryl, aryloxy, heterocyclyl, alkyl, alkenyl, alkynyl; R<sub>5</sub> = H, ester moiety; W = CH, N; V = CH, NO; Z = O, S, NR<sub>7</sub>; R<sub>7</sub> = R<sub>2</sub>] for use as antibacterials is described. Thus, I (R<sub>1</sub> = OCH<sub>2</sub>F; R<sub>2</sub> = Me; R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub> = H; W, V = N) is prep'd. in 3 steps by acylation of 7-amino-3-formyl-3-cephem-4-carboxylic acid with (5-amino-1,2,4-thiadiazol-3-yl)-(Z)-2-fluoromethoxyiminoacetic acid, reaction of this intermediate with 1-(1-methylhydrazino)iminomethylpiperazine dihydrochloride followed by chromatog.

L3 ANSWER 13 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 214055-73-9 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[[(2Z)-(2-amino-4-thiazolyl)(hydroxyimino)acetyl]amino]-3-[[[4-(3-carboxy-1-oxopropyl)-1-piperazinyl]iminomethyl]hydrazono]methyl]-8-oxo-, dihydrochloride, (6R,7R)- (9CI) (CA INDEX NAME)

FS STEREOSEARCH

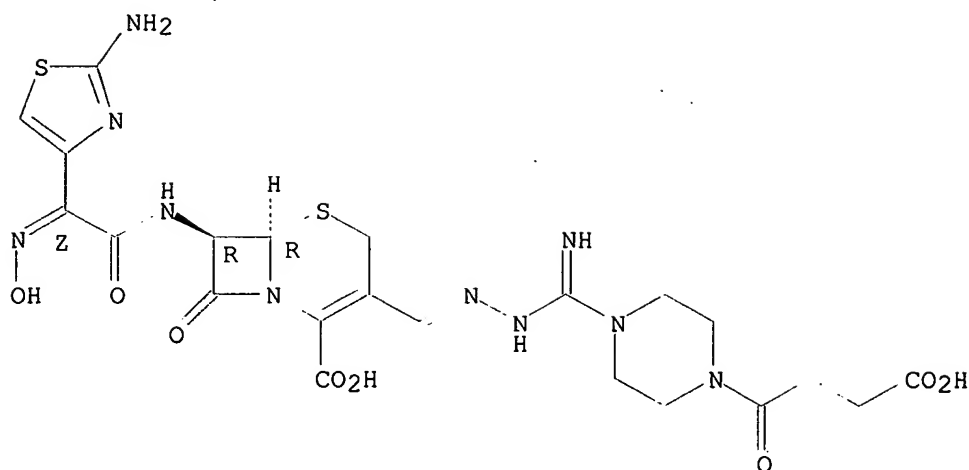
MF C22 H26 N10 O8 S2 . 2 Cl H

SR CA

LC STN Files: CA, CAPLUS

Absolute stereochemistry.

Double bond geometry as described by E or Z.



● 2 HCl

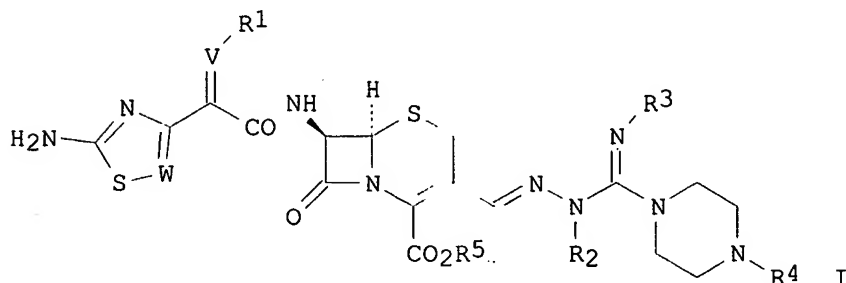
1 REFERENCES IN FILE CA (1967 TO DATE)  
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REFERENCE 1: 129:275783 synthesis of antibacterial substituted  
acylamino(methylhydrazono)methylcephalosporins and intermediates.

Ascher,

Gerd; Wieser, Josef; Schranz, Michael; Ludescher, Johannes; Hildebrandt, Johannes (Biochemie G.m.b.H., Austria). PCT Int. Appl. WO 9843981 A1 19981008, 46 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1998-EP1890 19980401. PRIORITY: AT 1997-546 19970401; AT 1997-547 19970401; AT 1997-548 19970401.

GI



Prepared by M. Hale 308-4258

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AB Synthesis of cephalosporins (I) [R1 = H, acyl, carboxyl, alkyl; R2, R3 = H, cycloalkyl, alkyl, alkenyl, alkynyl; R4 = H, C(=Z)R6; R6 = NH2, NHHN2, aminoalkylamino, alkoxy, aryl, cycloaryl, aryloxy, heterocyclyl, alkyl, alkenyl, alkynyl; R5 = H, ester moiety; W = CH, N; V = CH, NO; Z = O, S, NR7; R7 = R2] for use as antibacterials is described. Thus, I (R1 = OCH2F; R2 = Me; R3, R4, R5 = H; W, V = N) is prepd. in 3 steps by acylation of 7-amino-3-formyl-3-cephem-4-carboxylic acid with (5-amino-1,2,4-thiadiazol-3-yl)-(Z)-2-fluoromethoxyiminoacetic acid, reaction of this intermediate with 1-(1-methylhydrazino)iminomethylpiperazine dihydrochloride followed by chromatog.

L3 ANSWER 14 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 214055-72-8 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[[(2Z)-(2-amino-4-thiazolyl)(hydroxyimino)acetyl]amino]-3-[[[4-

(hydrazinoiminomethyl)-1-piperazinyl]iminomethyl]hydrazono]methyl]-8-oxo-, trihydrochloride, (6R,7R)-(9CI) (CA INDEX NAME)

FS STEREOSEARCH

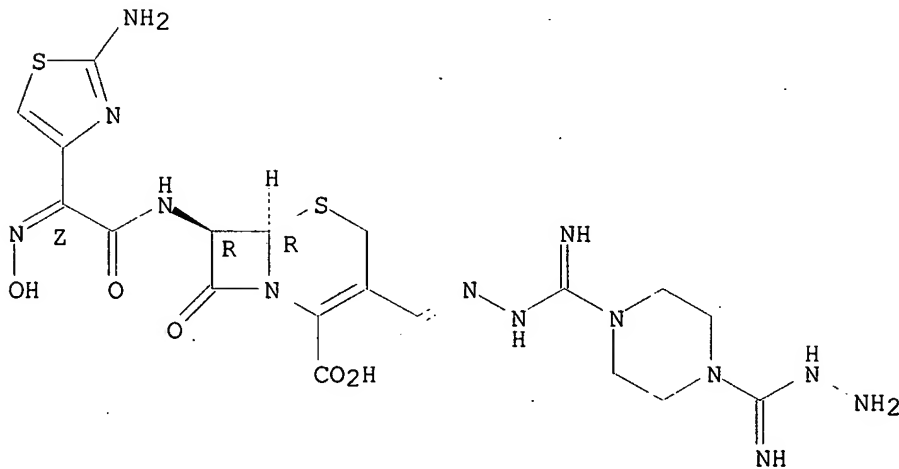
MF C19 H25 N13 O5 S2 . 3 Cl H

SR CA

LC STN Files: CA, CAPLUS

Absolute stereochemistry.

Double bond geometry as described by E or Z.



● 3 HCl

1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

Prepared by M. Hale 308-4258

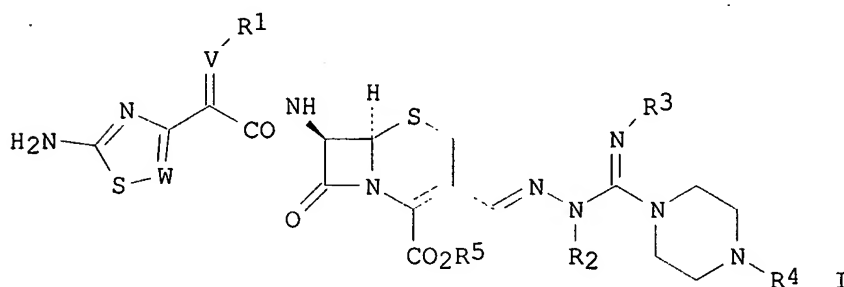
Page 77

REFERENCE 1: 129:275783 synthesis of antibacterial substituted  
acylamino(methylhydrazono)methylcephalosporins and intermediates.

Ascher,

Gerd; Wieser, Josef; Schranz, Michael; Ludescher, Johannes; Hildebrandt, Johannes (Biochemie G.m.b.H., Austria). PCT Int. Appl. WO 9843981 A1 19981008, 46 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1998-EP1890 19980401. PRIORITY: AT 1997-546 19970401; AT 1997-547 19970401; AT 1997-548 19970401.

GI



AB Synthesis of cephalosporins (I) [R1 = H, acyl, carboxyl, alkyl; R2, R3 = H, cycloalkyl, alkyl, alkenyl, alkynyl; R4 = H, C(=Z)R6; R6 = NH2, NHH2, aminoalkylamino, alkoxy, aryl, cycloaryl, aryloxy, heterocyclyl, alkyl, alkenyl, alkynyl; R5 = H, ester moiety; W = CH, N; V = CH, NO; Z = O, S, NR7; R7 = R2] for use as antibacterials is described. Thus, I (R1 = OCH2F; R2 = Me; R3, R4, R5 = H; W, V = N) is prepd. in 3 steps by acylation of 7-amino-3-formyl-3-cephem-4-carboxylic acid with (5-amino-1,2,4-thiadiazol-3-yl)-(Z)-2-fluoromethoxyiminoacetic acid, reaction of this intermediate with 1-(1-methylhydrazino)iminomethylpiperazine dihydrochloride followed by chromatog.

L3 ANSWER 15 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 214055-71-7 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,

7-[[[(2Z)-(5-amino-1,2,4-thiadiazol-3-yl)[(fluoromethoxy)imino]acetyl]amino]-3-[[[[4-[[[3-(dimethylamino)propyl]amino](ethylimino)methyl]-1-piperazinyl]iminomethyl]hydrazono]methyl]-8-oxo-, trihydrochloride, (6R,7R)-(9CI) (CA INDEX NAME)

FS STEREOSEARCH

MF C26 H39 F N14 O5 S2 . 3 Cl H

SR CA

LC STN Files: CA, CAPLUS

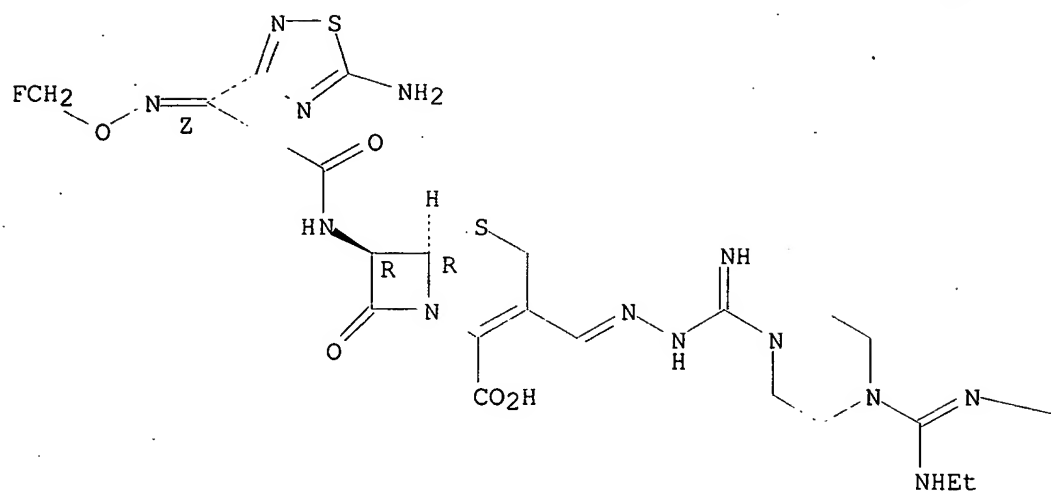
Absolute stereochemistry.

Prepared by M. Hale 308-4258

Page 78

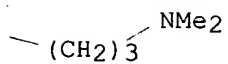
Double bond geometry as described by E or Z.

PAGE 1-A



• 3 HCl

PAGE 1-B



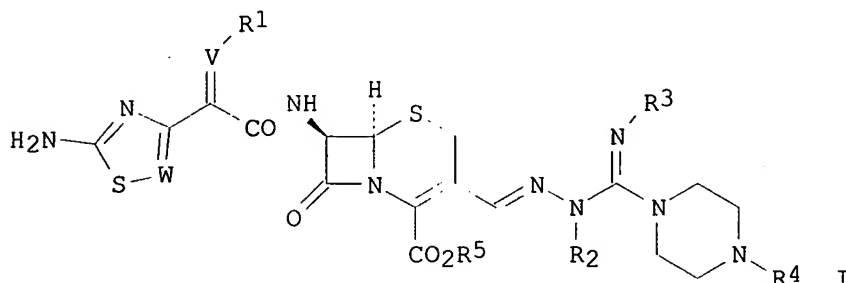
1 REFERENCES IN FILE CA (1967 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 129:275783 synthesis of antibacterial substituted  
acylamino(methylhydrazono)methylcephalosporins and intermediates.  
Ascher,

Gerd; Wieser, Josef; Schranz, Michael; Lydescher, Johannes; Hildebrandt,  
Prepared by M. Hale 308-4258 Page 79

Johannes (Biochemie G.m.b.H., Austria). PCT Int. Appl. WO 9843981 A1 19981008, 46 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1998-EP1890 19980401. PRIORITY: AT 1997-546 19970401; AT 1997-547 19970401; AT 1997-548 19970401.

GI



AB Synthesis of cephalosporins (I) [R1 = H, acyl, carboxyl, alkyl; R2, R3 = H, cycloalkyl, alkyl, alkenyl, alkynyl; R4 = H, C(=Z)R6; R6 = NH2, NHNH2, aminoalkylamino, alkoxy, aryl, cycloaryl, aryloxy, heterocyclyl, alkyl, alkenyl, alkynyl; R5 = H, ester moiety; W = CH, N; V = CH, NO; Z = O, S, NR7; R7 = R2] for use as antibacterials is described. Thus, I (R1 = OCH2F; R2 = Me; R3, R4, R5 = H; W, V = N) is prepd. in 3 steps by acylation of 7-amino-3-formyl-3-cephem-4-carboxylic acid with (5-amino-1,2,4-thiadiazol-3-yl)-(Z)-2-fluoromethoxyiminoacetic acid, reaction of this intermediate with 1-(1-methylhydrazino)iminomethylpiperazine dihydrochloride followed by chromatog.

L3 ANSWER 16 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 214055-70-6 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,

7-[[[(2Z)-(5-amino-1,2,4-thiadiazol-3-yl)](fluoromethoxy)imino]acetyl]amino

] -3-[[[imino[4-(iminohydrazinomethyl)-1-piperazinyl]methyl]hydrazono]methyl]-8-oxo-, trihydrochloride, (6R,7R)- (9CI) (CA INDEX NAME)

FS STEREOSEARCH

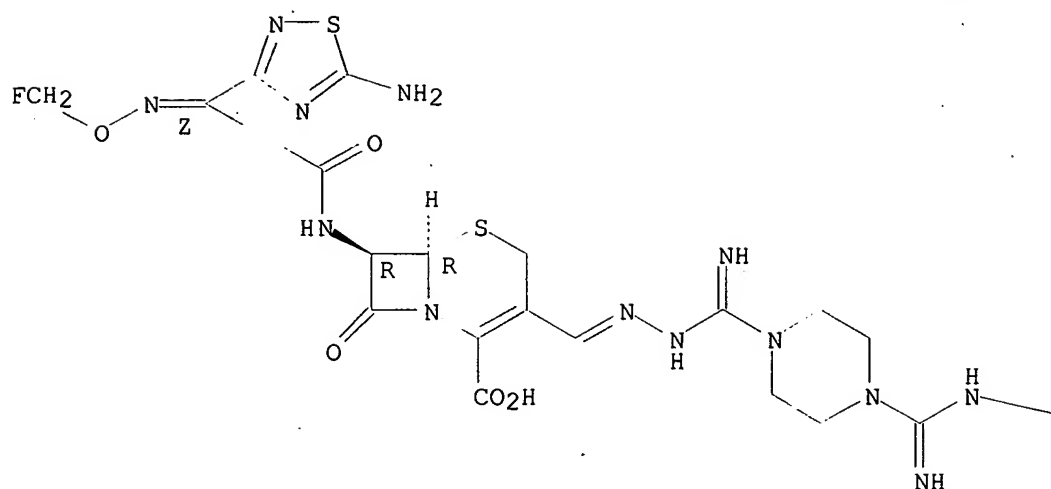
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SR CA

LC STN Files: CA, CAPLUS

Absolute stereochemistry.

Double bond geometry as described by E or Z.



● 3 HCl

$$\text{—NH}_2$$

1 REFERENCES IN FILE CA (1967 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 129:275783 synthesis of antibacterial substituted acylamino(methylhydrazono)methylcephalosporins and intermediates.

Ascher,

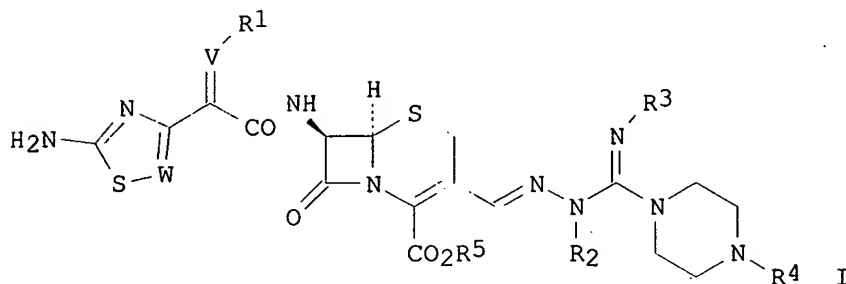
Gerd; Wieser, Josef; Schranz, Michael; Ludescher, Johannes; Hildebrandt, Johannes (Biochemie G.m.b.H., Austria). PCT Int. Appl. WO 9843981 A1  
Prepared by M. Hale 308-4258 Page 8

Prepared by M. Hale 308-4258

Page 81

19981008, 46 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1998-EP1890 19980401. PRIORITY: AT 1997-546 19970401; AT 1997-547 19970401; AT 1997-548 19970401.

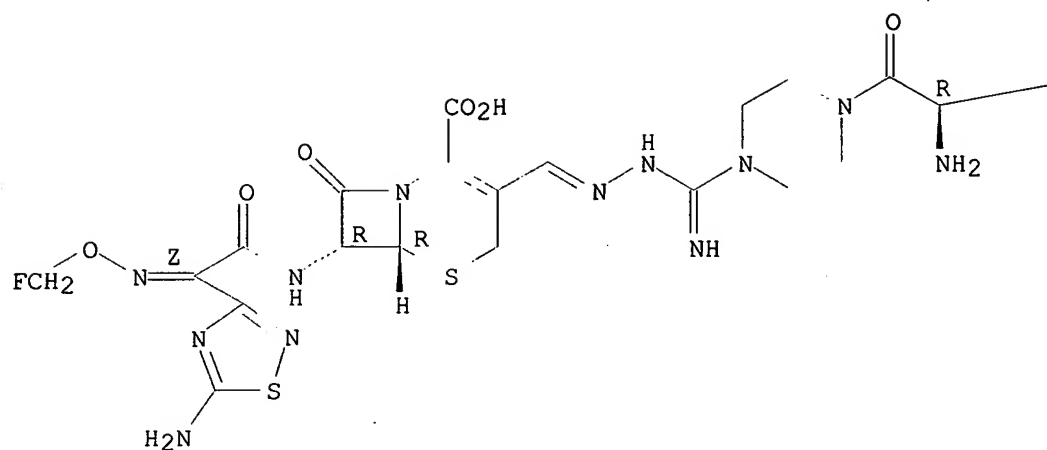
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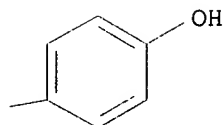
AB Synthesis of cephalosporins (I) [R1 = H, acyl, carboxyl, alkyl; R2, R3 = H, cycloalkyl, alkyl, alkenyl, alkynyl; R4 = H, C(=Z)R6; R6 = NH2, NHNH2, aminoalkylamino, alkoxy, aryl, cycloaryl, aryloxy, heterocyclyl, alkyl, alkenyl, alkynyl; R5 = H, ester moiety; W = CH, N; V = CH, NO; Z = O, S, NR7; R7 = R2] for use as antibacterials is described. Thus, I (R1 = OCH2F; R2 = Me; R3, R4, R5 = H; W, V = N) is prepd. in 3 steps by acylation of 7-amino-3-formyl-3-cephem-4-carboxylic acid with (5-amino-1,2,4-thiadiazol-3-yl)-(Z)-2-fluoromethoxyiminoacetic acid, reaction of this intermediate with 1-(1-methylhydrazino)iminomethylpiperazine dihydrochloride followed by chromatog.

L3 ANSWER 17 OF 148 REGISTRY COPYRIGHT 2000 ACS  
 RN 214055-69-3 REGISTRY  
 CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 3-[[[4-[(2R)-amino(4-hydroxyphenyl)acetyl]-1-piperazinyl]iminomethyl]hydrazono]methyl]-7-[[[(2Z)-(5-amino-1,2,4-thiadiazol-3-yl)[(fluoromethoxy)imino]acetyl]amino]-8-oxo-, trihydrochloride, (6R,7R)- (9CI) (CA INDEX NAME)  
 FS STEREOSEARCH  
 MF C26 H29 F N12 O7 S2 . 3 Cl H  
 SR CA  
 LC STN Files: CA, CAPLUS

Absolute stereochemistry.  
 Double bond geometry as described by E or Z.



• 3 HCl



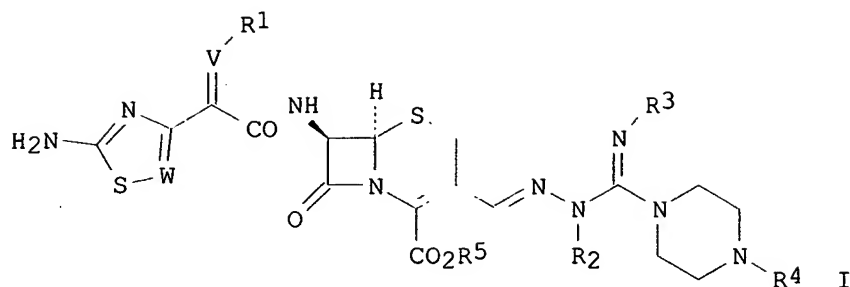
1 REFERENCES IN FILE CA (1967 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 129:275783 synthesis of antibacterial substituted  
acylamino(methylhydrazono)methylcephalosporins and intermediates.

Ascher,

Gerd; Wieser, Josef; Schranz, Michael; Ludescher, Johannes; Hildebrandt, Johannes (Biochemie G.m.b.H., Austria). PCT Int. Appl. WO 9843981 A1 19981008, 46 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1998-EP1890 19980401. PRIORITY: AT 1997-546 19970401; AT 1997-547 19970401; AT 1997-548 19970401.

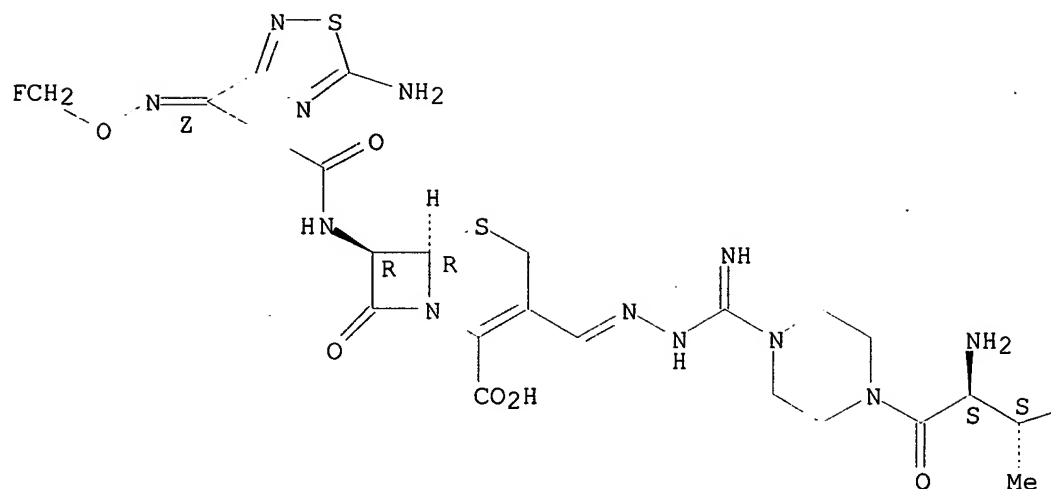
GI



AB Synthesis of cephalosporins (I) [R1 = H, acyl, carboxyl, alkyl; R2, R3 = H, cycloalkyl, alkyl, alkenyl, alkynyl; R4 = H, C(=Z)R6; R6 = NH2, NHHN2, aminoalkylamino, alkoxy, aryl, cycloaryl, aryloxy, heterocyclyl, alkyl, alkenyl, alkynyl; R5 = H, ester moiety; W = CH, N; V = CH, NO; Z = O, S, NR7; R7 = R2] for use as antibacterials is described. Thus, I (R1 = OCH2F; R2 = Me; R3, R4, R5 = H; W, V = N) is prepd. in 3 steps by acylation of 7-amino-3-formyl-3-cephem-4-carboxylic acid with (5-amino-1,2,4-thiadiazol-3-yl)-(Z)-2-fluoromethoxyiminoacetic acid, reaction of this intermediate with 1-(1-methylhydrazino)iminomethylpiperazine dihydrochloride followed by chromatog.

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L3 ANSWER 18 OF 148  REGISTRY  COPYRIGHT 2000 ACS
RN 214055-68-2  REGISTRY
CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,
3-[[[[[4-[(2S,3S)-2-amino-3-methyl-1-oxopentyl]-1-
piperazinyl]iminomethyl]hydrazono]methyl]-7-[[ (2Z)-(5-amino-1,2,4-
thiadiazol-3-yl) [(fluoromethoxy)imino]acetyl]amino]-8-oxo-,
trihydrochloride, (6R,7R)- (9CI)  (CA INDEX NAME)
FS STEREOSEARCH
MF C24 H33 F N12 O6 S2 . 3 C1 H
SR CA
LC STN Files:  CA, CAPLUS
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Absolute stereochemistry.  
Double bond geometry as described by E or Z.



• 3 HCl

— Et

1 REFERENCES IN FILE CA (1967 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

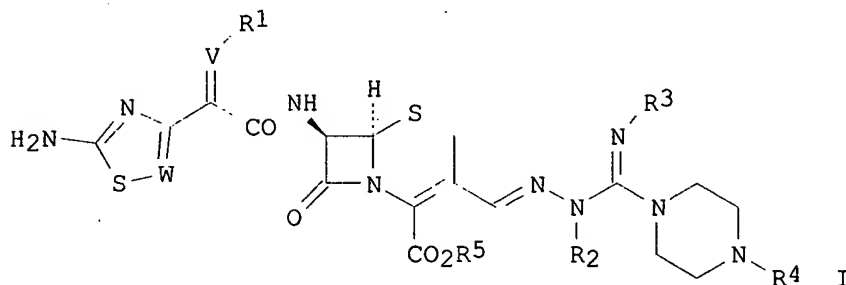
REFERENCE 1: 129:275783 synthesis of antibacterial substituted  
acylamino(methylhydrazono)methylcephalosporins and intermediates.

Ascher,

Gerd; Wieser, Josef; Schranz, Michael; Ludescher, Johannes; Hildebrandt,  
Johannes (Biochemie G.m.b.H., Austria). PCT Int. Appl. WO 9843981 A1  
19981008, 46 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG,  
Prepared by M. Hale 308-4258 Page 85

BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1998-EP1890 19980401. PRIORITY: AT 1997-546 19970401; AT 1997-547 19970401; AT 1997-548 19970401.

GI



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L3 ANSWER 19 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 214055-67-1 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,

3-[[[4-(aminoacetyl)-1-piperazinyl]iminomethyl]hydrazono]methyl]-7-[[ (2Z)-

(5-amino-1,2,4-thiadiazol-3-yl)[(fluoromethoxy)imino]acetyl]amino]-8-oxo-, trihydrochloride, (6R,7R)- (9CI) (CA INDEX NAME)

FS STEREOSEARCH

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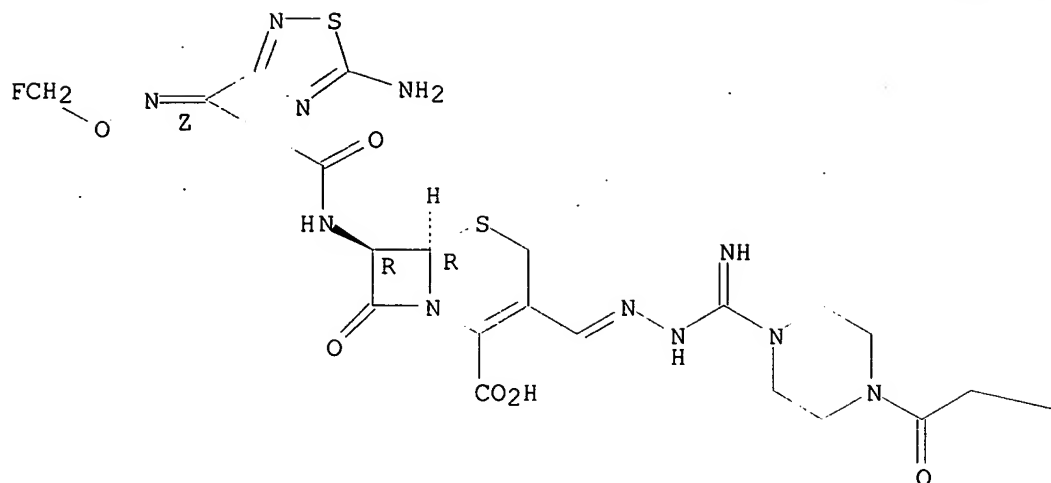
SR CA

LC STN Files: CA, CAPLUS

Absolute stereochemistry.

Double bond geometry as described by E or Z.

PAGE 1-A



● 3 HCl

PAGE 1-B

NH<sub>2</sub>

1 REFERENCES IN FILE CA (1967 TO DATE)  
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REFERENCE 1: 129:275783 synthesis of antibacterial substituted  
acylamino(methylhydrazono)methylcephalosporins and intermediates.

Ascher,

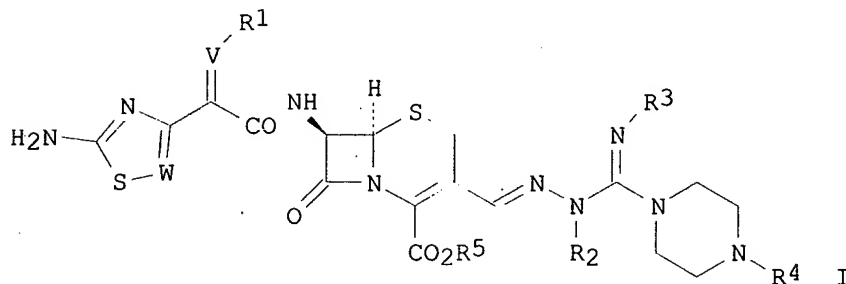
Gerd; Wieser, Josef; Schranz, Michael; Ludescher, Johannes; Hildebrandt,  
Johannes (Biochemie G.m.b.H., Austria). PCT Int. Appl. WO 9843981 A1

Prepared by M. Hale 308-4258

Page 87

19981008, 46 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English).  
 CODEN: PIXXD2. APPLICATION: WO 1998-EP1890 19980401. PRIORITY: AT 1997-546 19970401; AT 1997-547 19970401; AT 1997-548 19970401.

GI



AB Synthesis of cephalosporins (I) [R1 = H, acyl, carboxyl, alkyl; R2, R3 = H, cycloalkyl, alkyl, alkenyl, alkynyl; R4 = H, C(=Z)R6; R6 = NH2, NHNH2, aminoalkylamino, alkoxy, aryl, cycloaryl, aryloxy, heterocyclyl, alkyl, alkenyl, alkynyl; R5 = H, ester moiety; W = CH, N; V = CH, NO; Z = O, S, NR7; R7 = R2] for use as antibacterials is described. Thus, I (R1 = OCH2F; R2 = Me; R3, R4, R5 = H; W, V = N) is prep'd. in 3 steps by acylation of 7-amino-3-formyl-3-cephem-4-carboxylic acid with (5-amino-1,2,4-thiadiazol-3-yl)-(Z)-2-fluoromethoxyiminoacetic acid, reaction of this intermediate with 1-(1-methylhydrazino)iminomethylpiperazine dihydrochloride followed by chromatog.

L3 ANSWER 20 OF 148 REGISTRY COPYRIGHT 2000 ACS  
 RN 214055-66-0 REGISTRY  
 CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,

7-[[[(2Z)-(5-amino-1,2,4-thiadiazol-3-yl)[(fluoromethoxy)imino]acetyl]amino]-3-[[[imino[4-[(2S)-2-pyrrolidinylcarbonyl]-1-piperazinyl]methyl]hydrazono]methyl]-8-oxo-, trihydrochloride, (6R,7R)-(9CI) (CA INDEX NAME)

FS STEREOSEARCH  
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 SR CA  
 LC STN Files: CA, CAPLUS

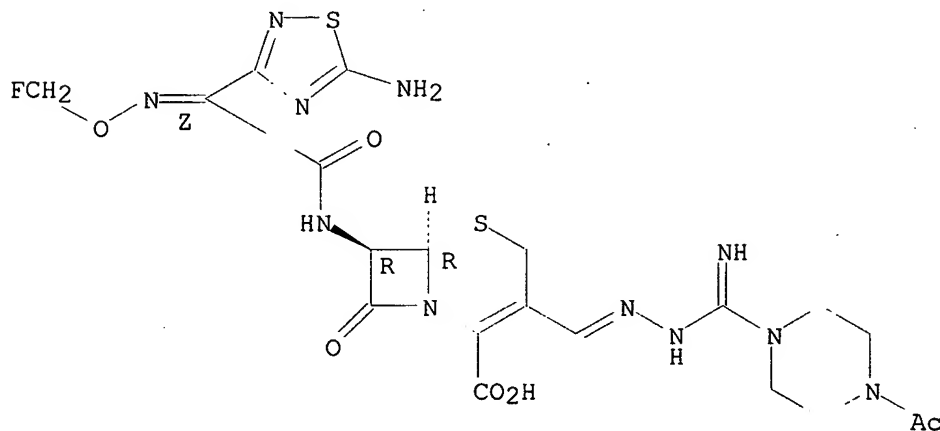
Absolute stereochemistry.  
 Double bond geometry as described by E or Z.



AB Synthesis of cephalosporins (I) [R1 = H, acyl, carboxyl, alkyl; R2, R3 = H, cycloalkyl, alkyl, alkenyl, alkynyl; R4 = H, C(=Z)R6; R6 = NH2, NHHH2, aminoalkylamino, alkoxy, aryl, cycloaryl, aryloxy, heterocyclyl, alkyl, alkenyl, alkynyl; R5 = H, ester moiety; W = CH, N; V = CH, NO; Z = O, S, NR7; R7 = R2] for use as antibacterials is described. Thus, I (R1 = OCH2F; R2 = Me; R3, R4, R5 = H; W, V = N) is prepd. in 3 steps by acylation of 7-amino-3-formyl-3-cephem-4-carboxylic acid with (5-amino-1,2,4-thiadiazol-3-yl)-(Z)-2-fluoromethoxyiminoacetic acid, reaction of this intermediate with 1-(1-methylhydrazino)iminomethylpiperazine dihydrochloride followed by chromatog.

L3 ANSWER 21 OF 148 REGISTRY COPYRIGHT 2000 ACS  
 RN 214055-65-9 REGISTRY  
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 FS STEREOSEARCH  
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 SR CA  
 LC STN Files: CA, CAPLUS

Absolute stereochemistry.  
 Double bond geometry as described by E or Z.



● 2 HCl

1 REFERENCES IN FILE CA (1967 TO DATE)  
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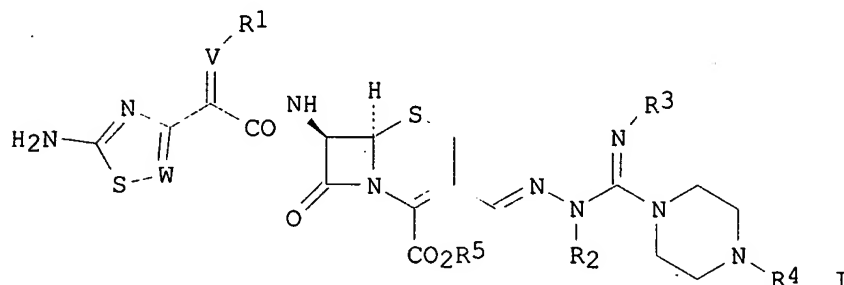
REFERENCE 1: 129:275783 synthesis of antibacterial substituted acylamino(methylhydrazono)methylcephalosporins and intermediates.  
 Ascher,

Prepared by M. Hale 308-4258

Page 90

Gerd; Wieser, Josef; Schranz, Michael; Ludescher, Johannes; Hildebrandt, Johannes (Biochemie G.m.b.H., Austria). PCT Int. Appl. WO 9843981 A1 19981008, 46 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1998-EP1890 19980401. PRIORITY: AT 1997-546 19970401; AT 1997-547 19970401; AT 1997-548 19970401.

GI



AB Synthesis of cephalosporins (I) [R1 = H, acyl, carboxyl, alkyl; R2, R3 = H, cycloalkyl, alkyl, alkenyl, alkynyl; R4 = H, C(=Z)R6; R6 = NH2, NHNH2, aminoalkylamino, alkoxy, aryl, cycloaryl, aryloxy, heterocyclyl, alkyl, alkenyl, alkynyl; R5 = H, ester moiety; W = CH, N; V = CH, NO; Z = O, S, NR7; R7 = R2] for use as antibacterials is described. Thus, I (R1 = OCH2F; R2 = Me; R3, R4, R5 = H; W, V = N) is prep'd. in 3 steps by acylation of 7-amino-3-formyl-3-cephem-4-carboxylic acid with (5-amino-1,2,4-thiadiazol-3-yl)-(Z)-2-fluoromethoxyiminoacetic acid, reaction of this intermediate with 1-(1-methylhydrazino)iminomethylpiperazine dihydrochloride followed by chromatog.

L3 ANSWER 22 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 214055-64-8 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,

3-[[[4-[2-(acetyloxy)benzoyl]-1-piperazinyl]iminomethyl]hydrazono]methyl]-

7-[[[(2Z)-(5-amino-1,2,4-thiadiazol-3-yl)](fluoromethoxy)imino]acetyl]amino  
]-8-oxo-, dihydrochloride, (6R,7R)- (9CI) (CA INDEX NAME)

FS STEREOSEARCH

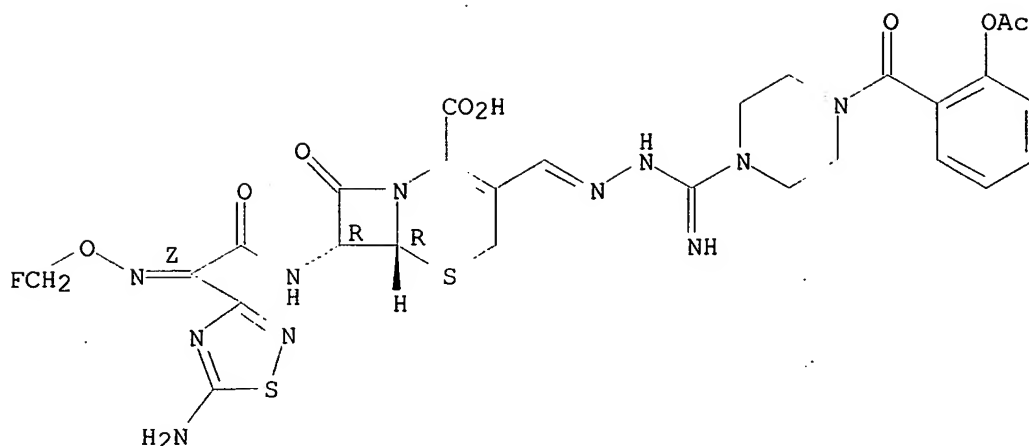
MF C27 H28 F N11 O8 S2 . 2 Cl H

SR CA

LC STN Files: CA, CAPLUS

Absolute stereochemistry.

Double bond geometry as described by E or Z.



● 2 HCl

1 REFERENCES IN FILE CA (1967 TO DATE)

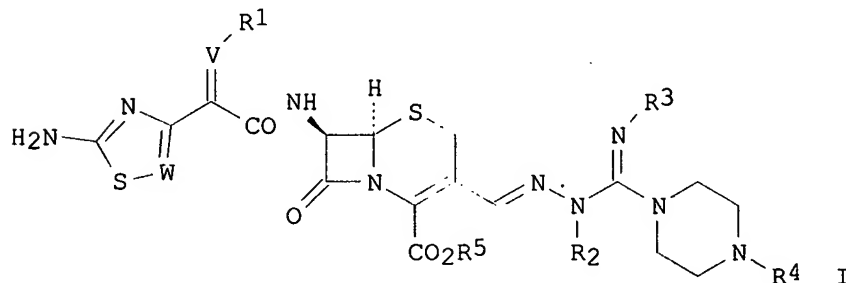
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 129:275783 synthesis of antibacterial substituted acylamino(methylhydrazono)methylcephalosporins and intermediates.

Ascher,

Gerd; Wieser, Josef; Schranz, Michael; Ludescher, Johannes; Hildebrandt, Johannes (Biochemie G.m.b.H., Austria). PCT Int. Appl. WO 9843981 A1 19981008, 46 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1998-EP1890 19980401. PRIORITY: AT 1997-546 19970401; AT 1997-547 19970401; AT 1997-548 19970401.

GI



AB Synthesis of cephalosporins (I) [R1 = H, acyl, carboxyl, alkyl; R2, R3 = H, cycloalkyl, alkyl, alkenyl, alkynyl; R4 = H, C(=Z)R6; R6 = NH2, NHHN2, aminoalkylamino, alkoxy, aryl, cycloaryl, aryloxy, heterocyclyl, alkyl, alkenyl, alkynyl; R5 = H, ester moiety; W = CH, N; V = CH, NO; Z = O, S, NR7; R7 = R2] for use as antibacterials is described. Thus, I (R1 = OCH2F; R2 = Me; R3, R4, R5 = H; W, V = N) is prepd. in 3 steps by acylation of 7-amino-3-formyl-3-cephem-4-carboxylic acid with (5-amino-1,2,4-thiadiazol-3-yl)-(Z)-2-fluoromethoxyiminoacetic acid, reaction of this intermediate with 1-(1-methylhydrazino)iminomethylpiperazine dihydrochloride followed by chromatog.

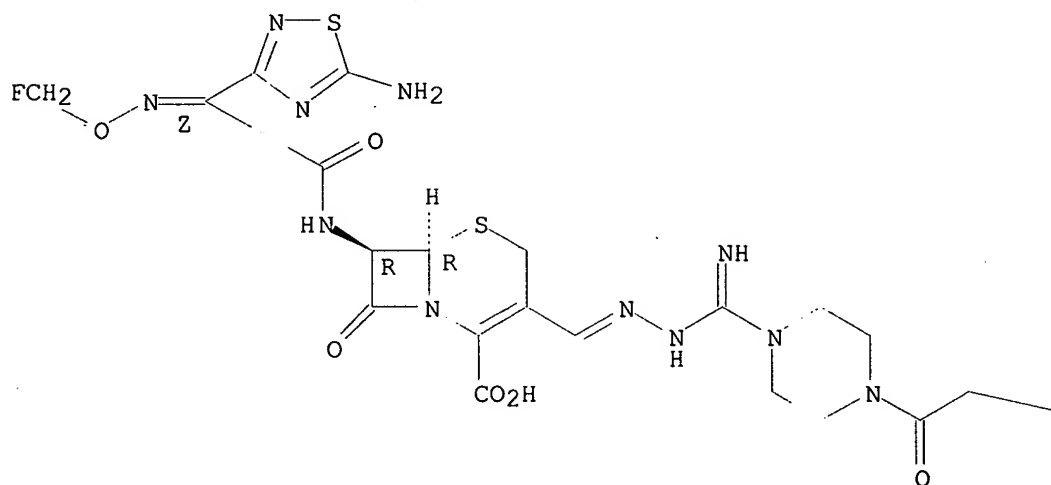
L3 ANSWER 23 OF 148 REGISTRY COPYRIGHT 2000 ACS  
 RN 214055-63-7 REGISTRY  
 CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,

7-[[[(2Z)-(5-amino-1,2,4-thiadiazol-3-yl){(fluoromethoxy)imino]acetyl]amino]-3-[[[imino[4-(phenoxyacetyl)-1-piperazinyl]methyl]hydrazono]methyl]-8-oxo-, dihydrochloride, (6R,7R)- (9CI) (CA INDEX NAME)

FS STEREOSEARCH  
 MF C26 H28 F N11 O7 S2 . 2 Cl H  
 SR CA  
 LC STN Files: CA, CAPLUS

Absolute stereochemistry.  
 Double bond geometry as described by E or Z.

PAGE 1-A



● 2 HCl

—OPh

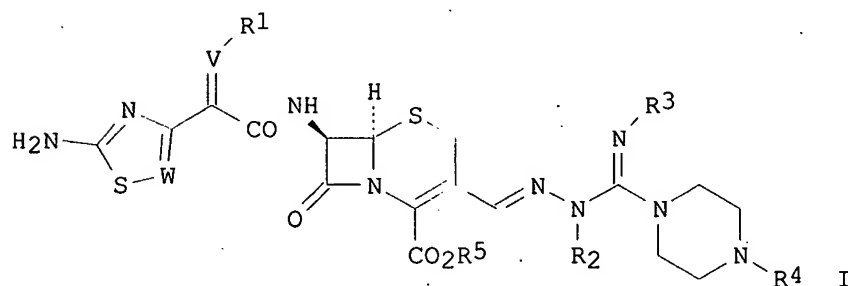
1 REFERENCES IN FILE CA (1967 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 129:275783 synthesis of antibacterial substituted  
acylamino(methylhydrazono)methylcephalosporins and intermediates.

Ascher,

Gerd; Wieser, Josef; Schranz, Michael; Ludescher, Johannes; Hildebrandt, Johannes (Biochemie G.m.b.H., Austria). PCT Int. Appl. WO 9843981 A1 19981008, 46 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1998-EP1890 19980401. PRIORITY: AT 1997-546 19970401; AT 1997-547 19970401; AT 1997-548 19970401.

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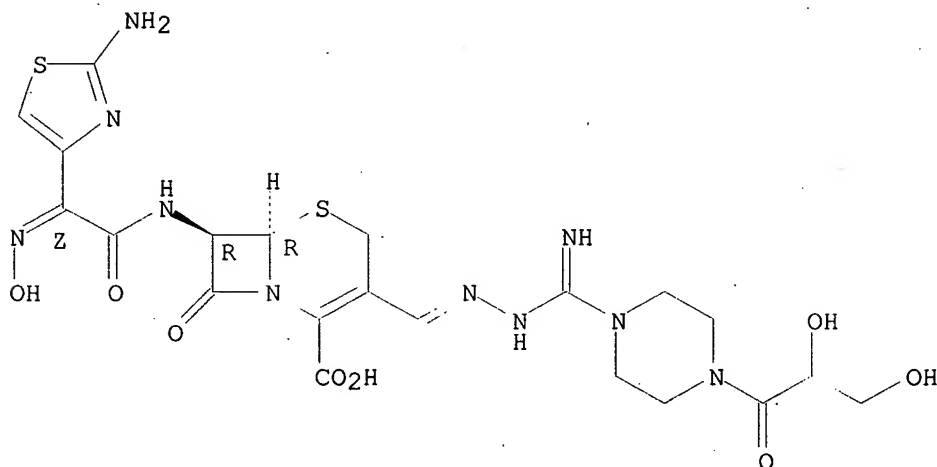


AB Synthesis of cephalosporins (I) [R1 = H, acyl, carboxyl, alkyl; R2, R3 = H, cycloalkyl, alkyl, alkenyl, alkynyl; R4 = H, C(=Z)R6; R6 = NH2, NHNH2, aminoalkylamino, alkoxy, aryl, cycloaryl, aryloxy, heterocyclyl, alkyl, Prepared by M. Hale 308-4258 Page 94

alkenyl, alkynyl; R5 = H, ester moiety; W = CH, N; V = CH, NO; Z = O, S, NR7; R7 = R2] for use as antibacterials is described. Thus, I (R1 = OCH2F; R2 = Me; R3, R4, R5 = H; W, V = N) is prepd. in 3 steps by acylation of 7-amino-3-formyl-3-cephem-4-carboxylic acid with (5-amino-1,2,4-thiadiazol-3-yl)-(Z)-2-fluoromethoxyiminoacetic acid, reaction of this intermediate with 1-(1-methylhydrazino)iminomethylpiperazine dihydrochloride followed by chromatog.

L3 ANSWER 24 OF 148 REGISTRY COPYRIGHT 2000 ACS  
 RN 214055-62-6 REGISTRY  
 CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,  
 7-[[[(2Z)-(2-amino-4-thiazolyl)(hydroxyimino)acetyl]amino]-3-[[[4-(2,3-dihydroxy-1-oxopropyl)-1-piperazinyl]iminomethyl]hydrazono]methyl]-8-oxo-,  
 dihydrochloride, (6R,7R)- (9CI) (CA INDEX NAME)  
 FS STEREOSEARCH  
 MF C21 H26 N10 O8 S2 . 2 Cl H  
 SR CA  
 LC STN Files: CA, CAPLUS

Absolute stereochemistry.  
 Double bond geometry as described by E or Z.



● 2 HCl

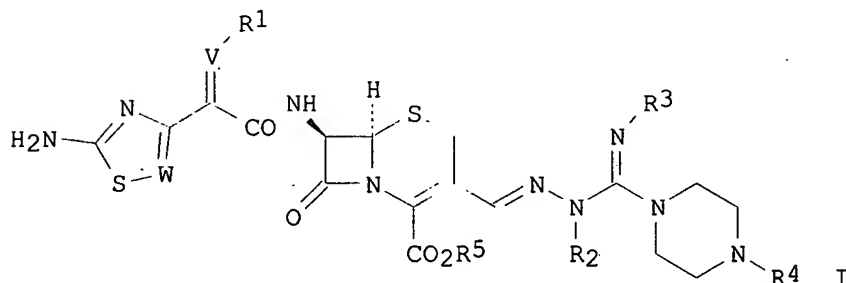
1 REFERENCES IN FILE CA (1967 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 129:275783 synthesis of antibacterial substituted  
 acylamino(methylhydrazono)methylcephalosporins and intermediates.

Ascher,  
 Gerd; Wieser, Josef; Schranz, Michael; Lydescher, Johannes; Hildebrandt,  
 Prepared by M. Hale 308-4258 Page 95

Johannes (Biochemie G.m.b.H., Austria). PCT Int. Appl. WO 9843981 A1 19981008, 46 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1998-EP1890 19980401. PRIORITY: AT 1997-546 19970401; AT 1997-547 19970401; AT 1997-548 19970401.

GI



AB Synthesis of cephalosporins (I) [R1 = H, acyl, carboxyl, alkyl; R2, R3 = H, cycloalkyl, alkyl, alkenyl, alkynyl; R4 = H, C(=Z)R6; R6 = NH2, NHNH2, aminoalkylamino, alkoxy, aryl, cycloaryl, aryloxy, heterocyclyl, alkyl, alkenyl, alkynyl; R5 = H, ester moiety; W = CH, N; V = CH, NO; Z = O, S, NR7; R7 = R2] for use as antibacterials is described. Thus, I (R1 = OCH2F; R2 = Me; R3, R4, R5 = H; W, V = N) is prepd. in 3 steps by acylation of 7-amino-3-formyl-3-cephem-4-carboxylic acid with (5-amino-1,2,4-thiadiazol-3-yl)-(Z)-2-fluoromethoxyiminoacetic acid, reaction of this intermediate with 1-(1-methylhydrazino)iminomethylpiperazine dihydrochloride followed by chromatog.

L3 ANSWER 25 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 214055-61-5 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,

7-[[[(2Z)-(2-amino-4-thiazolyl)(hydroxyimino)acetyl]amino]-3-[[[imino[4-(1-oxooctyl)-1-piperazinyl]methyl]hydrazono]methyl]-8-oxo-, dihydrochloride, (6R,7R)- (9CI) (CA INDEX NAME)

FS STEREOSEARCH

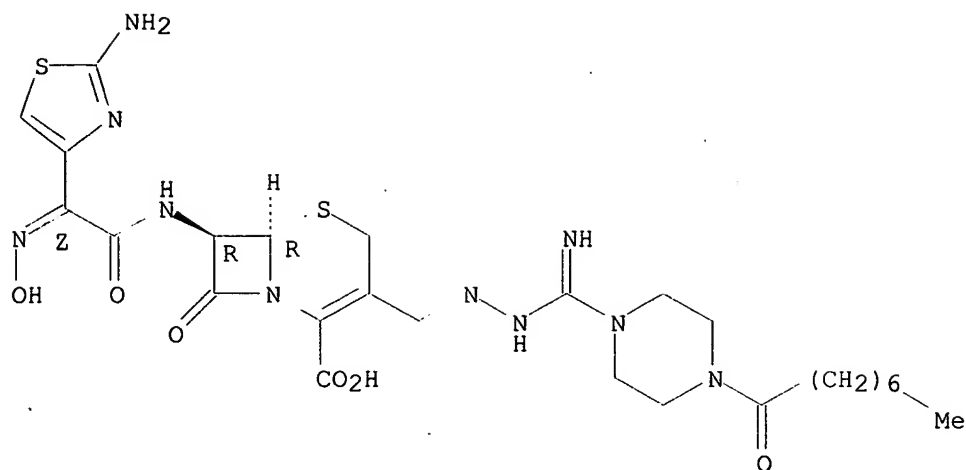
MF C26 H36 N10 O6 S2 . 2 Cl H

SR CA

LC STN Files: CA, CAPLUS

Absolute stereochemistry.

Double bond geometry as described by E or Z.



● 2 HCl

1 REFERENCES IN FILE CA (1967 TO DATE)

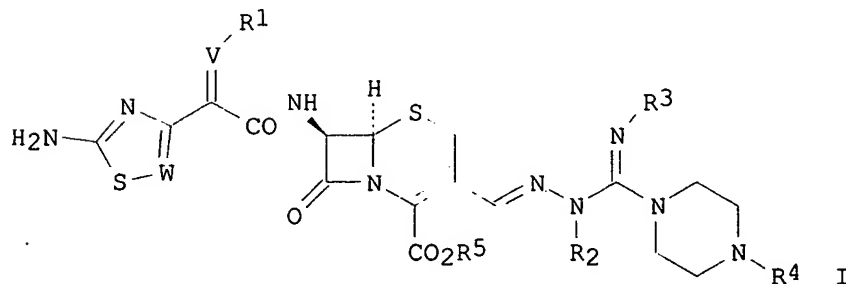
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 129:275783 synthesis of antibacterial substituted acylamino(methylhydrazono)methylcephalosporins and intermediates.

Ascher,

Gerd; Wieser, Josef; Schranz, Michael; Ludescher, Johannes; Hildebrandt, Johannes (Biochemie G.m.b.H., Austria). PCT Int. Appl. WO 9843981 A1 19981008, 46 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1998-EP1890 19980401. PRIORITY: AT 1997-546 19970401; AT 1997-547 19970401; AT 1997-548 19970401.

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Prepared by M. Hale 308-4258

Page 97

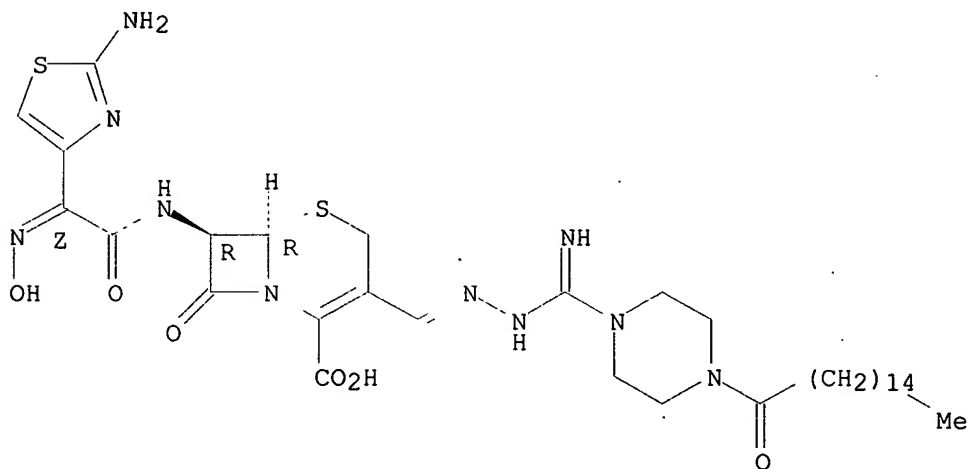
AB Synthesis of cephalosporins (I) [R1 = H, acyl, carboxyl, alkyl; R2, R3 = H, cycloalkyl, alkyl, alkenyl, alkynyl; R4 = H, C(=Z)R6; R6 = NH2, NHHH2, aminoalkylamino, alkoxy, aryl, cycloaryl, aryloxy, heterocyclyl, alkyl, alkenyl, alkynyl; R5 = H, ester moiety; W = CH, N; V = CH, NO; Z = O, S, NR7; R7 = R2] for use as antibacterials is described. Thus, I (R1 = OCH2F; R2 = Me; R3, R4, R5 = H; W, V = N) is prepd. in 3 steps by acylation of 7-amino-3-formyl-3-cephem-4-carboxylic acid with (5-amino-1,2,4-thiadiazol-3-yl)-(Z)-2-fluoromethoxyiminoacetic acid, reaction of this intermediate with 1-(1-methylhydrazino)iminomethylpiperazine dihydrochloride followed by chromatog.

L3 ANSWER 26 OF 148 REGISTRY COPYRIGHT 2000 ACS  
 RN 214055-60-4 REGISTRY  
 CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,

7-[[[(2Z)-(2-amino-4-thiazolyl)(hydroxyimino)acetyl]amino]-3-[[[imino[4-(1-oxohexadecyl)-1-piperazinyl]methyl]hydrazono]methyl]-8-oxo-, dihydrochloride, (6R,7R)- (9CI) (CA INDEX NAME)

FS STEREOSEARCH  
 MF C34 H52 N10 O6 S2 . 2 C1 H  
 SR CA  
 LC STN Files: CA, CAPLUS

Absolute stereochemistry.  
 Double bond geometry as described by E or Z.



● 2 HCl

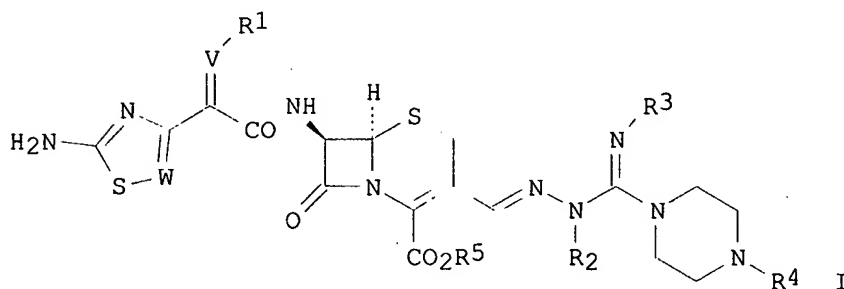
1 REFERENCES IN FILE CA (1967 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

Prepared by M. Hale 308-4258

Page 98

Ascher,

GI



L3 ANSWER 27 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 214055-59-1 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,

7-[[ (2Z)-(2-amino-4-thiazolyl) (hydroxyimino) acetyl] amino]-3-[[[imino[4-(1-oxooctadecyl)-1-piperazinyl]methyl]hydrazono]methyl]-8-oxo-, dihydrochloride, (6R,7R)- (9CI) (CA INDEX NAME)

FS STEREOSEARCH

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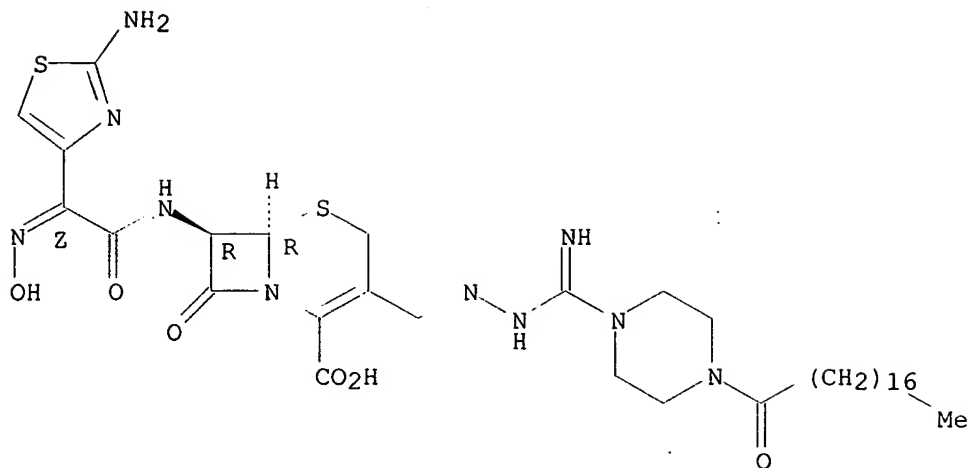
SR	CA
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LC STN Files: CA, CAPLUS

Absolute stereochemistry.

Double bond geometry as described by E or Z.  
Prepared by M. Hale 308-4258

Page 99



● 2 HCl

1 REFERENCES IN FILE CA (1967 TO DATE)

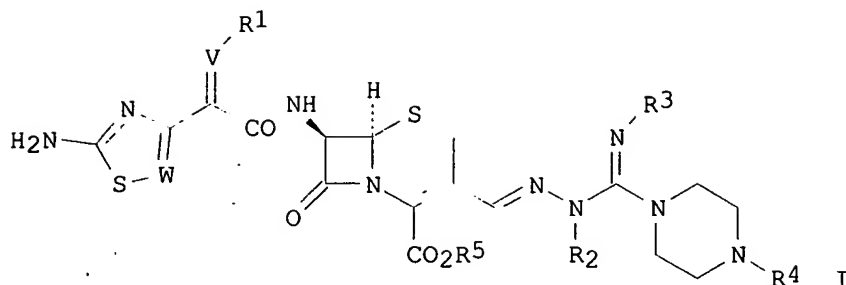
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 129:275783 synthesis of antibacterial substituted acylamino(methylhydrazono)methylcephalosporins and intermediates.

Ascher,

Gerd; Wieser, Josef; Schranz, Michael; Ludescher, Johannes; Hildebrandt, Johannes (Biochemie G.m.b.H., Austria). PCT Int. Appl. WO 9843981 A1 19981008, 46 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1998-EP1890 19980401. PRIORITY: AT 1997-546 19970401; AT 1997-547 19970401; AT 1997-548 19970401.

GI



AB Synthesis of cephalosporins (I) [R1 = H, acyl, carboxyl, alkyl; R2, R3 = H, cycloalkyl, alkyl, alkenyl, alkynyl; R4 = H, C(=Z)R6; R6 = NH2, NHH2, aminoalkylamino, alkoxy, aryl, cycloaryl, aryloxy, heterocyclyl, alkyl, alkenyl, alkynyl; R5 = H, ester moiety; W = CH, N; V = CH, NO; Z = O, S, NR7; R7 = R2] for use as antibacterials is described. Thus, I (R1 = OCH2F; R2 = Me; R3, R4, R5 = H; W, V = N) is prepd. in 3 steps by acylation of 7-amino-3-formyl-3-cephem-4-carboxylic acid with (5-amino-1,2,4-thiadiazol-3-yl)-(Z)-2-fluoromethoxyiminoacetic acid, reaction of this intermediate with 1-(1-methylhydrazino)iminomethylpiperazine dihydrochloride followed by chromatog.

L3 ANSWER 28 OF 148 REGISTRY COPYRIGHT 2000 ACS  
 RN 214055-58-0 REGISTRY  
 CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,

7-[[ (2Z)-(2-amino-4-thiazolyl) (hydroxyimino) acetyl] amino]-3-[[[imino[4-(1-oxoheptyl)-1-piperazinyl]methyl]hydrazono]methyl]-8-oxo-, dihydrochloride,

(6R,7R)- (9CI) (CA INDEX NAME)

FS STEREOSEARCH

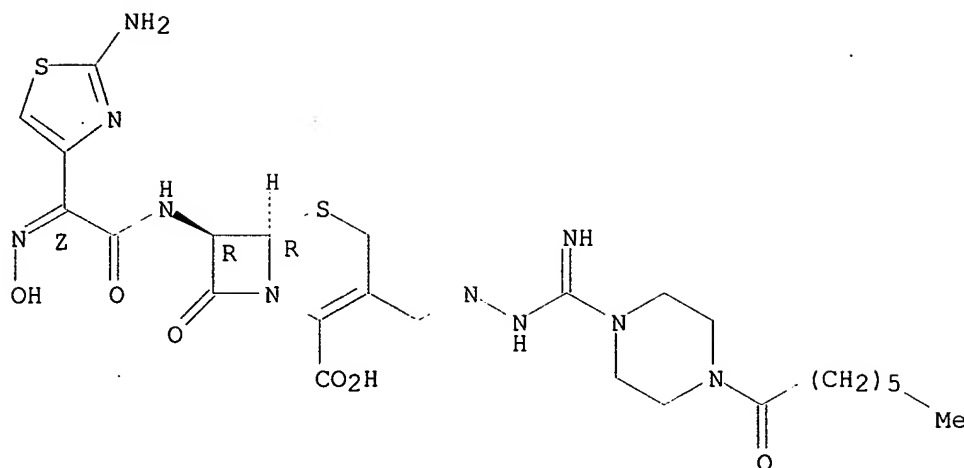
MF C25 H34 N10 O6 S2 . 2 Cl H

SR CA

LC STN Files: CA, CAPLUS

Absolute stereochemistry.

Double bond geometry as described by E or Z.



● 2 HCl

1 REFERENCES IN FILE CA (1967 TO DATE)

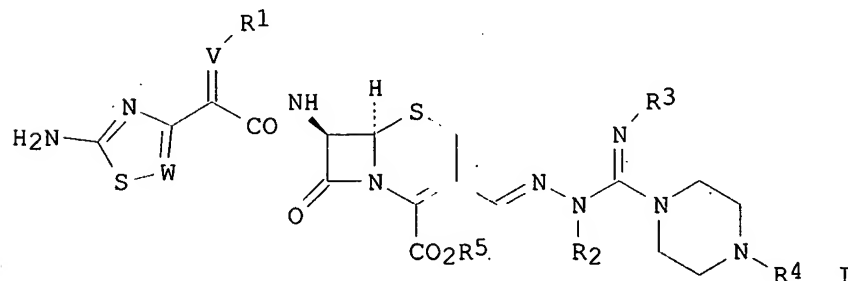
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 129:275783 synthesis of antibacterial substituted acylamino(methylhydrazono)methylcephalosporins and intermediates.

Ascher,

Gerd; Wieser, Josef; Schranz, Michael; Ludescher, Johannes; Hildebrandt, Johannes (Biochemie G.m.b.H., Austria). PCT Int. Appl. WO 9843981 A1 19981008, 46 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1998-EP1890 19980401. PRIORITY: AT 1997-546 19970401; AT 1997-547 19970401; AT 1997-548 19970401.

GI



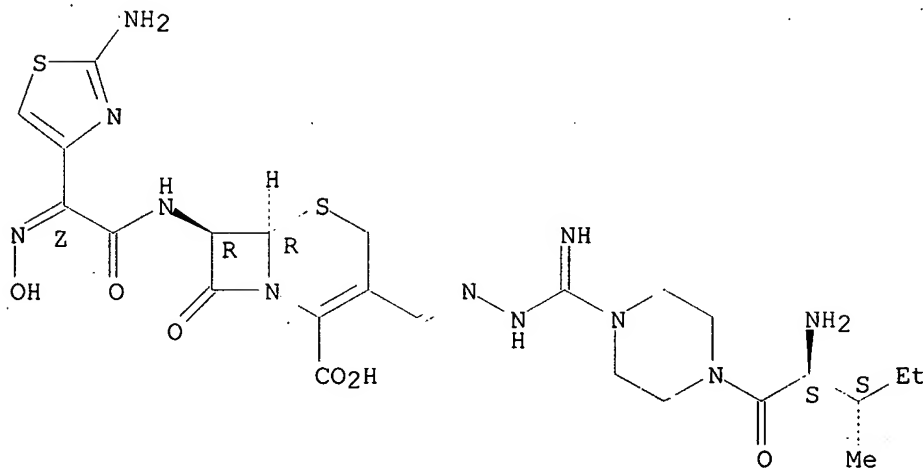
Prepared by M. Hale 308-4258

Page 102

AB Synthesis of cephalosporins (I) [R1 = H, acyl, carboxyl, alkyl; R2, R3 = H, cycloalkyl, alkyl, alkenyl, alkynyl; R4 = H, C(=Z)R6; R6 = NH2, NHH2, aminoalkylamino, alkoxy, aryl, cycloaryl, aryloxy, heterocyclyl, alkyl, alkenyl, alkynyl; R5 = H, ester moiety; W = CH, N; V = CH, NO; Z = O, S, NR7; R7 = R2] for use as antibacterials is described. Thus, I (R1 = OCH2F; R2 = Me; R3, R4, R5 = H; W, V = N) is prepd. in 3 steps by acylation of 7-amino-3-formyl-3-cephem-4-carboxylic acid with (5-amino-1,2,4-thiadiazol-3-yl)-(Z)-2-fluoromethoxyiminoacetic acid, reaction of this intermediate with 1-(1-methylhydrazino)iminomethylpiperazine dihydrochloride followed by chromatog.

L3 ANSWER 29 OF 148 REGISTRY COPYRIGHT 2000 ACS  
 RN 214055-57-9 REGISTRY  
 CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 3-[[[4-[(2S,3S)-2-amino-3-methyl-1-oxopentyl]-1-piperazinyl]iminomethyl]hydrazono]methyl]-7-[(2Z)-(2-amino-4-thiazolyl)(hydroxyimino)acetyl]amino]-8-oxo-, trihydrochloride, (6R,7R)-(9CI) (CA INDEX NAME)  
 FS STEREOSEARCH  
 MF C24 H33 N11 O6 S2 . 3 Cl H  
 SR CA  
 LC STN Files: CA, CAPLUS

Absolute stereochemistry.  
 Double bond geometry as described by E or Z.



● 3 HCl

1 REFERENCES IN FILE CA (1967 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

Prepared by M. Hale 308-4258

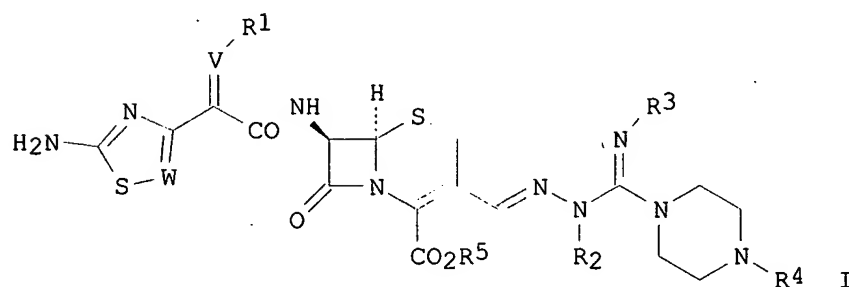
Page 103

REFERENCE 1: 129:275783 synthesis of antibacterial substituted acylamino(methylhydrazono)methylcephalosporins and intermediates.

Ascher,

Gerd; Wieser, Josef; Schranz, Michael; Ludescher, Johannes; Hildebrandt, Johannes (Biochemie G.m.b.H., Austria). PCT Int. Appl. WO 9843981 A1 19981008, 46 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1998-EP1890 19980401. PRIORITY: AT 1997-546 19970401; AT 1997-547 19970401; AT 1997-548 19970401.

GI



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L3 ANSWER 30 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 214055-56-8 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 3-[[[4-[(2S)-2-amino-4-carboxy-1-oxobutyl]-1-piperazinyl]iminomethyl]hydrazono]methyl]-7-[[[(2Z)-(2-amino-4-thiazolyl)(hydroxyimino)acetyl]amino]-8-oxo-, dihydrochloride, (6R,7R)-(9CI) (CA INDEX NAME)

FS STEREOSEARCH

MF C23 H29 N11 O8 S2 . 2 Cl H

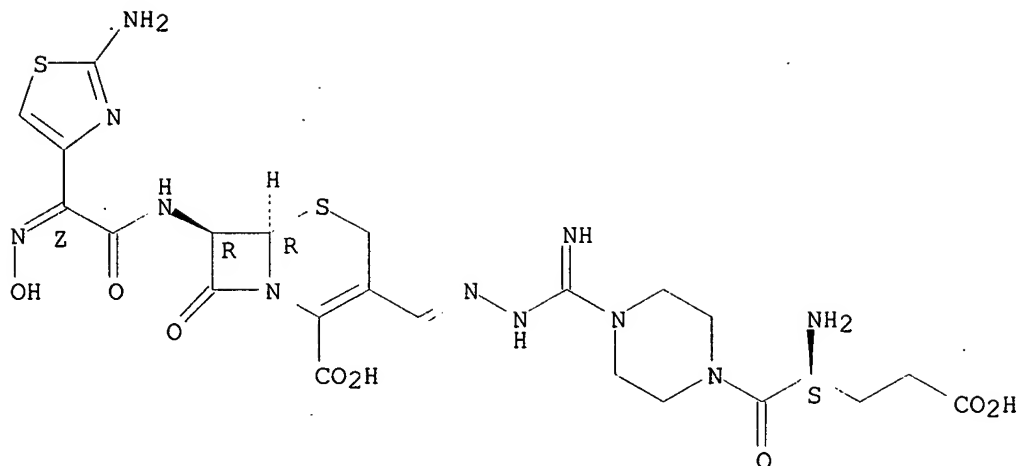
SR CA

LC STN Files: CA, CAPLUS

Absolute stereochemistry.

Double bond geometry as described by E or Z.  
Prepared by M. Hale 308-4258

Page 104



● 2 HCl

1 REFERENCES IN FILE CA (1967 TO DATE)

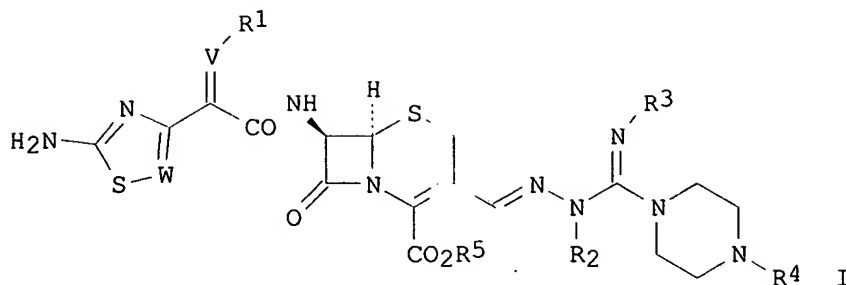
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 129:275783 synthesis of antibacterial substituted acylamino(methylhydrazono)methylcephalosporins and intermediates.

Ascher,

Gerd; Wieser, Josef; Schranz, Michael; Ludescher, Johannes; Hildebrandt, Johannes (Biochemie G.m.b.H., Austria). PCT Int. Appl. WO 9843981 A1 19981008, 46 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1998-EP1890 19980401. PRIORITY: AT 1997-546 19970401; AT 1997-547 19970401; AT 1997-548 19970401.

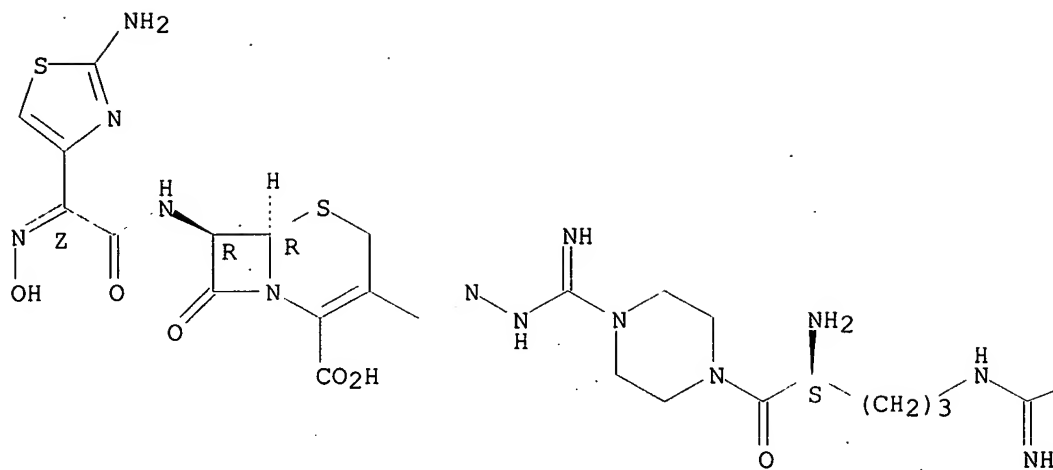
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AB Synthesis of cephalosporins (I) [R1 = H, acyl, carboxyl, alkyl; R2, R3 = H, cycloalkyl, alkyl, alkenyl, alkynyl; R4 = H, C(=Z)R6; R6 = NH2, NHNH2, aminoalkylamino, alkoxy, aryl, cycloaryl, aryloxy, heterocyclyl, alkyl, alkenyl, alkynyl; R5 = H, ester moiety; W = CH, N; V = CH, NO; Z = O, S, NR7; R7 = R2] for use as antibacterials is described. Thus, I (R1 = OCH2F; R2 = Me; R3, R4, R5 = H; W, V = N) is prepd. in 3 steps by acylation of 7-amino-3-formyl-3-cephem-4-carboxylic acid with (5-amino-1,2,4-thiadiazol-3-yl)-(Z)-2-fluoromethoxyiminoacetic acid, reaction of this intermediate with 1-(1-methylhydrazino)iminomethylpiperazine dihydrochloride followed by chromatog.

L3 ANSWER 31 OF 148 REGISTRY COPYRIGHT 2000 ACS  
 RN 214055-55-7 REGISTRY  
 CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 3-[[[4-[(2S)-2-amino-5-[(aminoiminomethyl)amino]-1-oxopentyl]-1-piperazinyl]iminomethyl]hydrazono]methyl]-7-[[[(2Z)-(2-amino-4-thiazolyl)(hydroxyimino)acetyl]amino]-8-oxo-, tetrahydrochloride, (6R,7R)-  
 (9CI) (CA INDEX NAME)  
 FS STEREOSEARCH  
 MF C24 H34 N14 O6 S2 . 4 Cl H  
 SR CA  
 LC STN Files: CA, CAPLUS

Absolute stereochemistry.  
 Double bond geometry as described by E or Z.



● 4 HCl

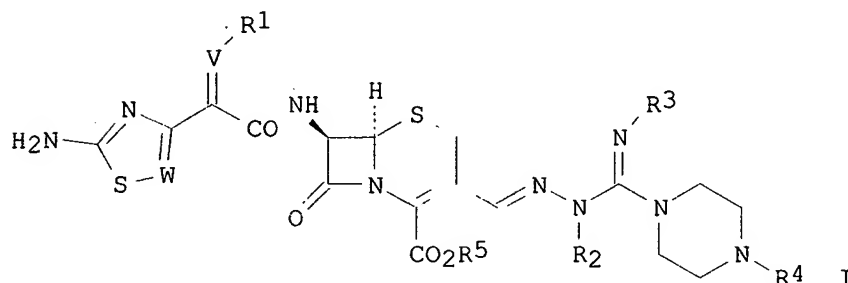
—NH<sub>2</sub>

1 REFERENCES IN FILE CA (1967 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 129:275783 synthesis of antibacterial substituted  
acylamino(methylhydrazono)methylcephalosporins and intermediates.  
Ascher,

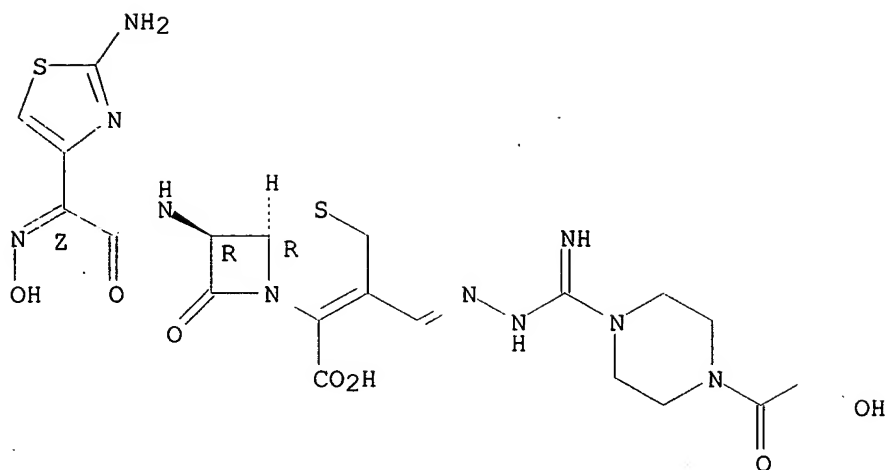
Gerd; Wieser, Josef; Schranz, Michael; Ludescher, Johannes; Hildebrandt,  
Johannes (Biochemie G.m.b.H., Austria). PCT Int. Appl. WO 9843981 A1  
19981008, 46 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG,  
BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU,  
ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG,  
Prepared by M. Hale 308-4258 Page 107

GI



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L3 ANSWER 32 OF 148 REGISTRY COPYRIGHT 2000 ACS
RN 214055-54-6 REGISTRY
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7-[[[(2Z)-(2-amino-4-thiazolyl)(hydroxyimino)acetyl]amino]-3-[[[4-
(hydroxyacetyl)-1-piperazinyl]iminomethyl]hydrazono]methyl]-8-oxo-,
dihydrochloride, (6R,7R)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C20 H24 N10 O7 S2 . 2 Cl H
SR CA
LC STN Files: CA, CAPLUS
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Page 108



• 2 HCl

1 REFERENCES IN FILE CA (1967 TO DATE)

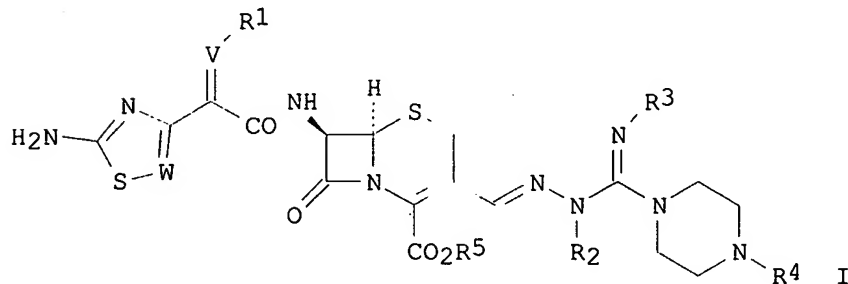
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 129:275783 synthesis of antibacterial substituted acylamino(methylhydrazono)methylcephalosporins and intermediates.

Ascher,

Gerd; Wieser, Josef; Schranz, Michael; Ludescher, Johannes; Hildebrandt, Johannes (Biochemie G.m.b.H., Austria). PCT Int. Appl. WO 9843981 A1 19981008, 46 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1998-EP1890 19980401. PRIORITY: AT 1997-546 19970401; AT 1997-547 19970401; AT 1997-548 19970401.

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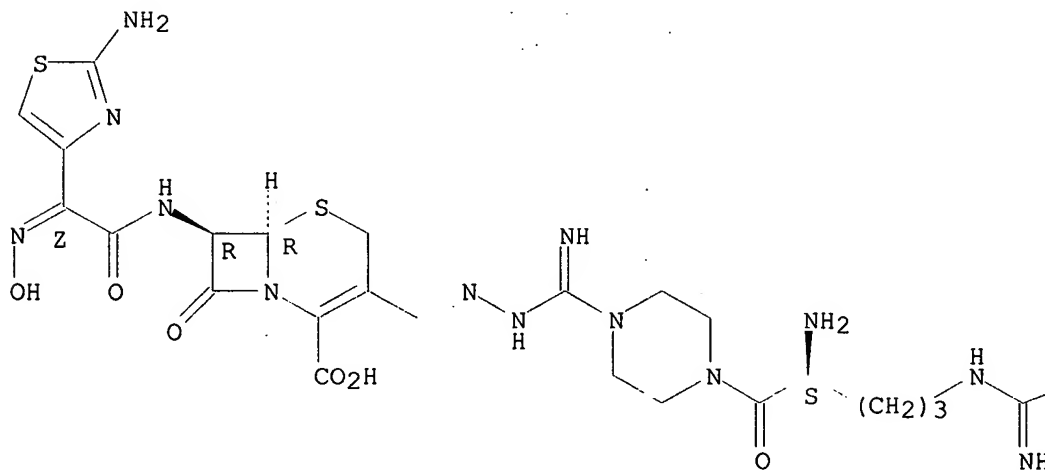


AB Synthesis of cephalosporins (I) [R1 = H, acyl, carboxyl, alkyl; R2, R3 = H, cycloalkyl, alkyl, alkenyl, alkynyl; R4 = H, C(=Z)R6; R6 = NH2, NHHH2, aminoalkylamino, alkoxy, aryl, cycloaryl, aryloxy, heterocyclyl, alkyl, alkenyl, alkynyl; R5 = H, ester moiety; W = CH, N; V = CH, NO; Z = O, S, NR7; R7 = R2] for use as antibacterials is described. Thus, I (R1 = OCH2F; R2 = Me; R3, R4, R5 = H; W, V = N) is prepd. in 3 steps by acylation of 7-amino-3-formyl-3-cephem-4-carboxylic acid with (5-amino-1,2,4-thiadiazol-3-yl)-(Z)-2-fluoromethoxyiminoacetic acid, reaction of this intermediate with 1-(1-methylhydrazino)iminomethylpiperazine dihydrochloride followed by chromatog.

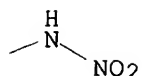
L3 ANSWER 33 OF 148 REGISTRY COPYRIGHT 2000 ACS  
 RN 214055-53-5 REGISTRY  
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 FS STEREOSEARCH  
 MF C24 H33 N15 O8 S2 . 3 Cl H  
 SR CA  
 LC STN Files: CA, CAPLUS

Absolute stereochemistry.  
 Double bond geometry as described by E or Z.

PAGE 1-A



● 3 HCl

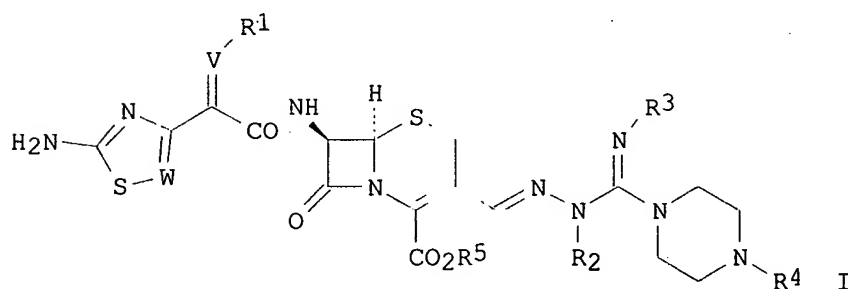


1 REFERENCES IN FILE CA (1967 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 129:275783 synthesis of antibacterial substituted  
acylamino(methylhydrazono)methylcephalosporins and intermediates.

Ascher,  
Gerd; Wieser, Josef; Schranz, Michael; Ludescher, Johannes; Hildebrandt,  
Johannes (Biochemie G.m.b.H., Austria). PCT Int. Appl. WO 9843981 A1  
19981008, 46 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG,  
BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU,  
ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG,  
MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM,  
TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM;  
RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB,  
GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English).  
CODEN: PIXXD2. APPLICATION: WO 1998-EP1890 19980401. PRIORITY: AT  
1997-546 19970401; AT 1997-547 19970401; AT 1997-548 19970401.

GI



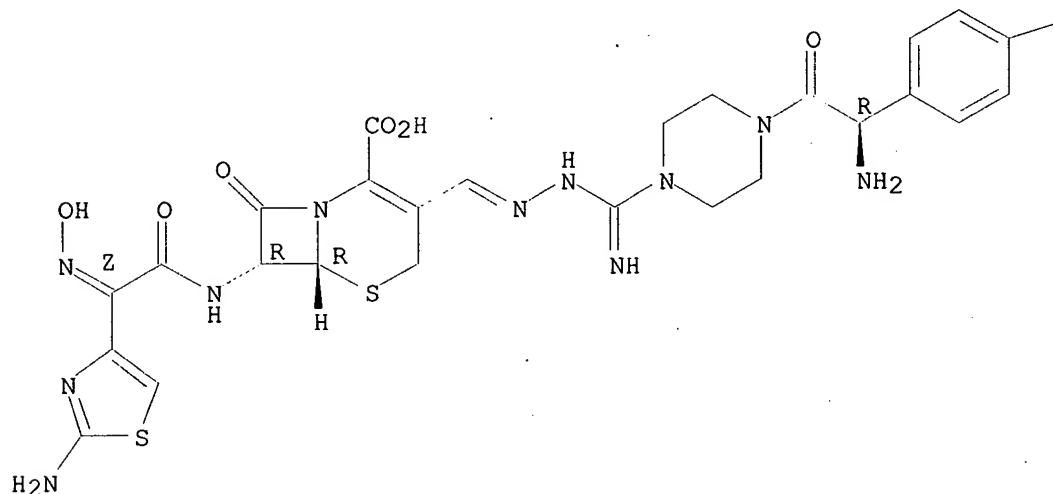
AB Synthesis of cephalosporins (I) [R1 = H, acyl, carboxyl, alkyl; R2, R3 =  
H, cycloalkyl, alkyl, alkenyl, alkynyl; R4 = H, C(=Z)R6; R6 = NH2, NHH2,  
aminoalkylamino, alkoxy, aryl, cycloaryl, aryloxy, heterocyclyl, alkyl,  
alkenyl, alkynyl; R5 = H, ester moiety; W = CH, N; V = CH, NO; Z = O, S,  
Prepared by M. Hale 308-4258 Page 111

NR7; R7 = R2] for use as antibacterials is described. Thus, I (R1 = OCH2F; R2 = Me; R3, R4, R5 = H; W, V = N) is prepd. in 3 steps by acylation of 7-amino-3-formyl-3-cephem-4-carboxylic acid with (5-amino-1,2,4-thiadiazol-3-yl)-(Z)-2-fluoromethoxyiminoacetic acid, reaction of this intermediate with 1-(1-methylhydrazino)iminomethylpiperazine dihydrochloride followed by chromatog.

L3 ANSWER 34 OF 148 REGISTRY COPYRIGHT 2000 ACS  
 RN 214055-52-4 REGISTRY  
 CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 3-[[[4-[(2R)-amino(4-hydroxyphenyl)acetyl]-1-piperazinyl]iminomethyl]hydrazono]methyl]-7-[[[(2Z)-(2-amino-4-thiazolyl)(hydroxyimino)acetyl]amino]-8-oxo-, trihydrochloride, (6R,7R)-(9CI) (CA INDEX NAME)  
 FS STEREOSEARCH  
 MF C26 H29 N11 O7 S2 . 3 Cl H  
 SR CA  
 LC STN Files: CA, CAPLUS

Absolute stereochemistry.  
 Double bond geometry as described by E or Z.

PAGE 1-A



● 3 HCl

PAGE 1-B

—OH

Prepared by M. Hale 308-4258

Page 112

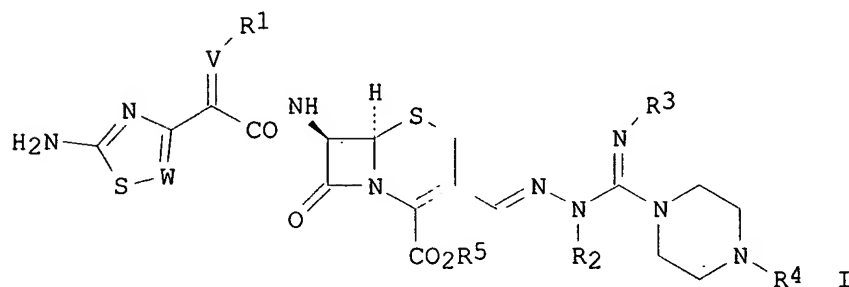
1 REFERENCES IN FILE CA (1967 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 129:275783 synthesis of antibacterial substituted  
acylamino(methylhydrazono)methylcephalosporins and intermediates.

Ascher,

Gerd; Wieser, Josef; Schranz, Michael; Ludescher, Johannes; Hildebrandt, Johannes (Biochemie G.m.b.H., Austria). PCT Int. Appl. WO 9843981 A1 19981008, 46 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1998-EP1890 19980401. PRIORITY: AT 1997-546 19970401; AT 1997-547 19970401; AT 1997-548 19970401.

GI



AB Synthesis of cephalosporins (I) [R<sub>1</sub> = H, acyl, carboxyl, alkyl; R<sub>2</sub>, R<sub>3</sub> = H, cycloalkyl, alkyl, alkenyl, alkynyl; R<sub>4</sub> = H, C(=Z)R<sub>6</sub>; R<sub>6</sub> = NH<sub>2</sub>, NHNH<sub>2</sub>, aminoalkylamino, alkoxy, aryl, cycloaryl, aryloxy, heterocyclyl, alkyl, alkenyl, alkynyl; R<sub>5</sub> = H, ester moiety; W = CH, N; V = CH, NO; Z = O, S, NR<sub>7</sub>; R<sub>7</sub> = R<sub>2</sub>] for use as antibacterials is described. Thus, I (R<sub>1</sub> = OCH<sub>2</sub>F; R<sub>2</sub> = Me; R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub> = H; W, V = N) is prepd. in 3 steps by acylation of 7-amino-3-formyl-3-cephem-4-carboxylic acid with (5-amino-1,2,4-thiadiazol-3-yl)-(Z)-2-fluoromethoxyiminoacetic acid, reaction of this intermediate with 1-(1-methylhydrazino)iminomethylpiperazine dihydrochloride followed by chromatog.

L3 ANSWER 35 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 214055-51-3 REGISTRY

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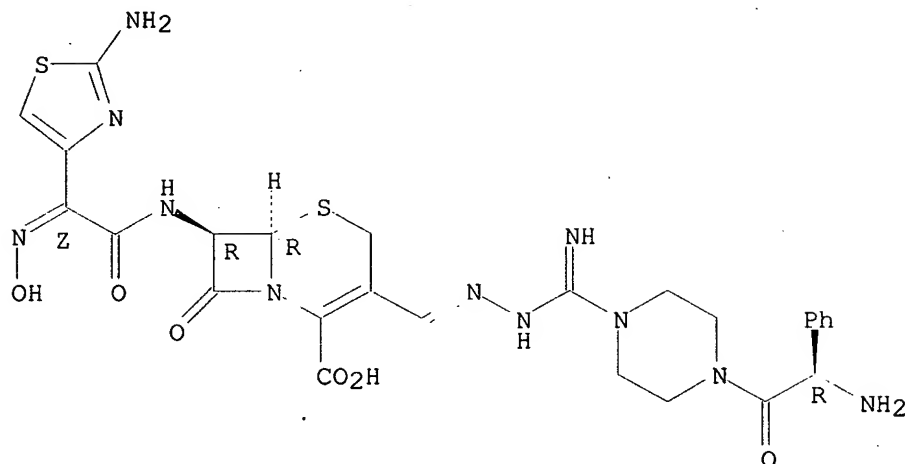
3-[[[4-[(2R)-aminophenylacetyl]-1-piperazinyl]iminomethyl]hydrazono]methyl]-7-[[[(2Z)-(2-amino-4-thiazolyl)(hydroxyimino)acetyl]amino]-8-oxo-, trihydrochloride, (6R,7R)- (9CI) (CA INDEX NAME)

FS STEREOSEARCH

Prepared by M. Hale 308-4258

Page 113

Absolute stereochemistry.  
Double bond geometry as described by E or Z.

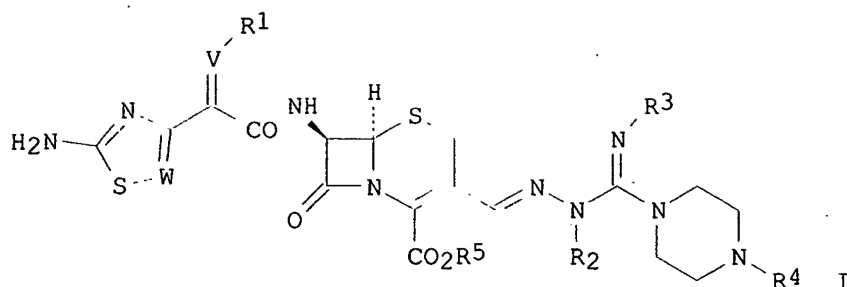


1 REFERENCES IN FILE CA (1967 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

Ascher,

Gerd; Wieser, Josef; Schranz, Michael; Ludescher, Johannes; Hildebrandt, Johannes (Biochemie G.m.b.H., Austria). PCT Int. Appl. WO 9843981 A1 19981008, 46 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1998-EP1890 19980401. PRIORITY: AT 1997-546 19970401; AT 1997-547 19970401; AT 1997-548 19970401.

GI

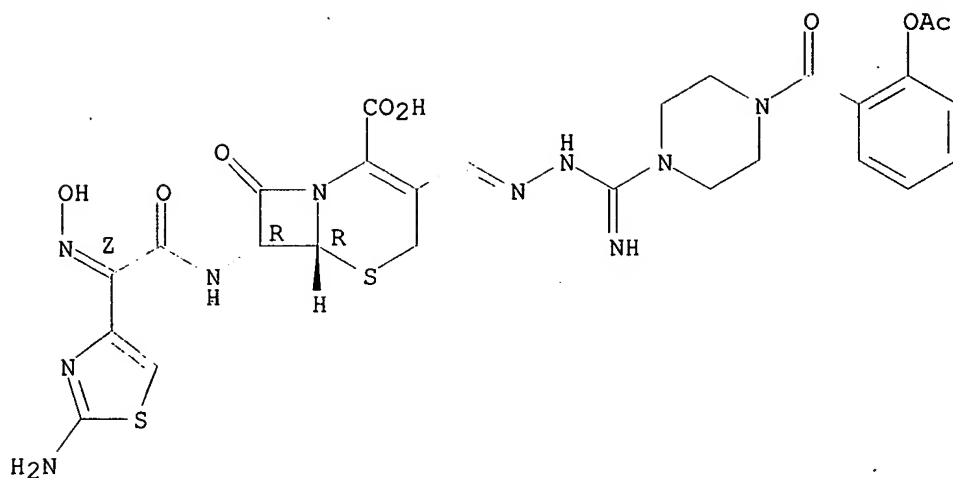


AB Synthesis of cephalosporins (I) [R1 = H, acyl, carboxyl, alkyl; R2, R3 = H, cycloalkyl, alkyl, alkenyl, alkynyl; R4 = H, C(=Z)R6; R6 = NH2, NHH2, aminoalkylamino, alkoxy, aryl, cycloaryl, aryloxy, heterocyclyl, alkyl, alkenyl, alkynyl; R5 = H, ester moiety; W = CH, N; V = CH, NO; Z = O, S, NR7; R7 = R2] for use as antibacterials is described. Thus, I (R1 = OCH2F; R2 = Me; R3, R4, R5 = H; W, V = N) is prepd. in 3 steps by acylation of 7-amino-3-formyl-3-cephem-4-carboxylic acid with (5-amino-1,2,4-thiadiazol-3-yl)-(Z)-2-fluoromethoxyiminoacetic acid, reaction of this intermediate with 1-(1-methylhydrazino)iminomethylpiperazine dihydrochloride followed by chromatog.

L3 ANSWER 36 OF 148 REGISTRY COPYRIGHT 2000 ACS  
 RN 214055-50-2 REGISTRY  
 CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,

3-[[[4-[2-(acetyloxy)benzoyl]-1-piperazinyl]iminomethyl]hydrazono]methyl]-7-[[[(2Z)-(2-amino-4-thiazolyl)(hydroxyimino)acetyl]amino]-8-oxo-, dihydrochloride, (6R,7R)- (9CI) (CA INDEX NAME)  
 FS STEREOSEARCH  
 MF C27 H28 N10 O8 S2 . 2 Cl H  
 SR CA  
 LC STN Files: CA, CAPLUS

Absolute stereochemistry.  
 Double bond geometry as described by E or Z.



● 2 HCl

1 REFERENCES IN FILE CA (1967 TO DATE)

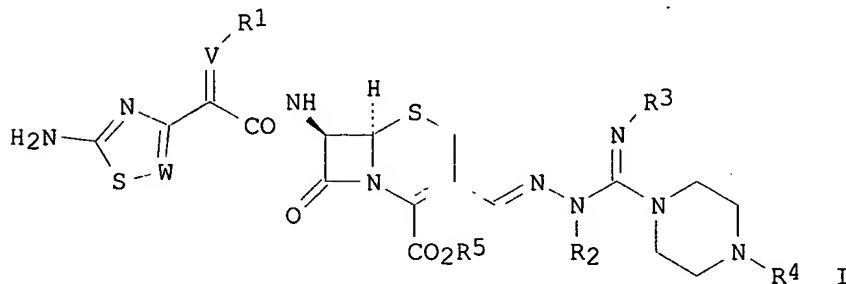
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 129:275783 synthesis of antibacterial substituted acylamino(methylhydrazono)methylcephalosporins and intermediates.

Ascher,

Gerd; Wieser, Josef; Schranz, Michael; Ludescher, Johannes; Hildebrandt, Johannes (Biochemie G.m.b.H., Austria). PCT Int. Appl. WO 9843981 A1 19981008, 46 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1998-EP1890 19980401. PRIORITY: AT 1997-546 19970401; AT 1997-547 19970401; AT 1997-548 19970401.

GI



Prepared by M. Hale 308-4258

Page 116

AB Synthesis of cephalosporins (I) [R1 = H, acyl, carboxyl, alkyl; R2, R3 = H, cycloalkyl, alkyl, alkenyl, alkynyl; R4 = H, C(=Z)R6; R6 = NH2, NHNH2, aminoalkylamino, alkoxy, aryl, cycloaryl, aryloxy, heterocyclyl, alkyl, alkenyl, alkynyl; R5 = H, ester moiety; W = CH, N; V = CH, NO; Z = O, S, NR7; R7 = R2] for use as antibacterials is described. Thus, I (R1 = OCH2F; R2 = Me; R3, R4, R5 = H; W, V = N) is prepd. in 3 steps by acylation of 7-amino-3-formyl-3-cephem-4-carboxylic acid with (5-amino-1,2,4-thiadiazol-3-yl)-(Z)-2-fluoromethoxyiminoacetic acid, reaction of this intermediate with 1-(1-methylhydrazino)iminomethylpiperazine dihydrochloride followed by chromatog.

L3 ANSWER 37 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 214055-49-9 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,  
7-[[[(2Z)-(2-amino-4-thiazolyl)(hydroxyimino)acetyl]amino]-3-[[[imino[4-

[(2S)-2-pyrrolidinylcarbonyl]-1-piperazinyl]methyl]hydrazono]methyl]-8-oxo-  
, trihydrochloride, (6R,7R)- (9CI) (CA INDEX NAME)

FS STEREOSEARCH

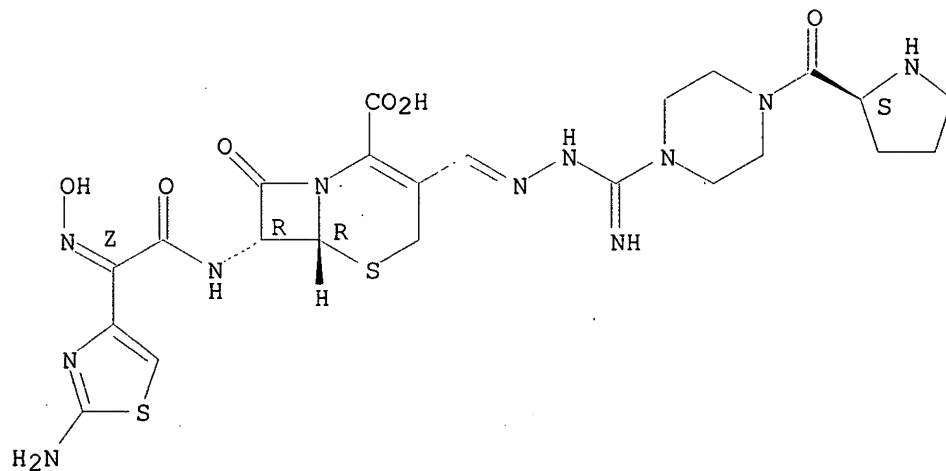
MF C23 H29 N11 O6 S2 . 3 Cl H

SR CA

LC STN Files: CA, CAPLUS

Absolute stereochemistry.

Double bond geometry as described by E or Z.



● 3 HCl

1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

Prepared by M. Hale 308-4258

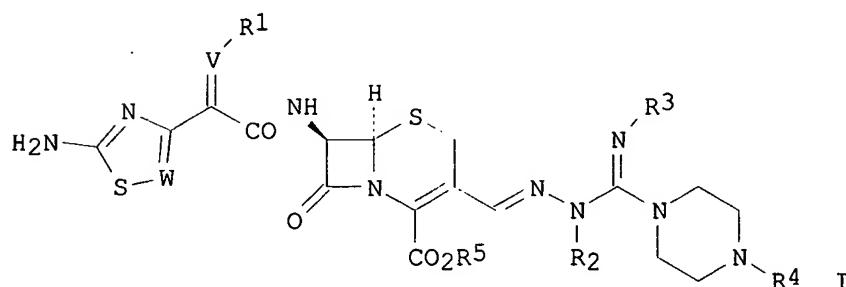
Page 117

REFERENCE 1: 129:275783 synthesis of antibacterial substituted  
acylamino(methylhydrazono)methylcephalosporins and intermediates.

Ascher,

Gerd; Wieser, Josef; Schranz, Michael; Ludescher, Johannes; Hildebrandt, Johannes (Biochemie G.m.b.H., Austria). PCT Int. Appl. WO 9843981 A1 19981008, 46 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1998-EP1890 19980401. PRIORITY: AT 1997-546 19970401; AT 1997-547 19970401; AT 1997-548 19970401.

GI



AB Synthesis of cephalosporins (I) [R1 = H, acyl, carboxyl, alkyl; R2, R3 = H, cycloalkyl, alkyl, alkenyl, alkynyl; R4 = H, C(=Z)R6; R6 = NH2, NHNH2, aminoalkylamino, alkoxy, aryl, cycloaryl, aryloxy, heterocyclyl, alkyl, alkenyl, alkynyl; R5 = H, ester moiety; W = CH, N; V = CH, NO; Z = O, S, NR7; R7 = R2] for use as antibacterials is described. Thus, I (R1 = OCH2F; R2 = Me; R3, R4, R5 = H; W, V = N) is prepd. in 3 steps by acylation of 7-amino-3-formyl-3-cephem-4-carboxylic acid with (5-amino-1,2,4-thiadiazol-3-yl)-(Z)-2-fluoromethoxyiminoacetic acid, reaction of this intermediate with 1-(1-methylhydrazino)iminomethylpiperazine dihydrochloride followed by chromatog.

L3 ANSWER 38 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 214055-48-8 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[[(2Z)-(2-amino-4-thiazolyl)(hydroxyimino)acetyl]amino]-3-[[[imino[4-(phenoxyacetyl)-1-piperazinyl]methyl]hydrazono]methyl]-8-oxo-, dihydrochloride, (6R,7R)- (9CI) (CA INDEX NAME)

FS STEREOSEARCH

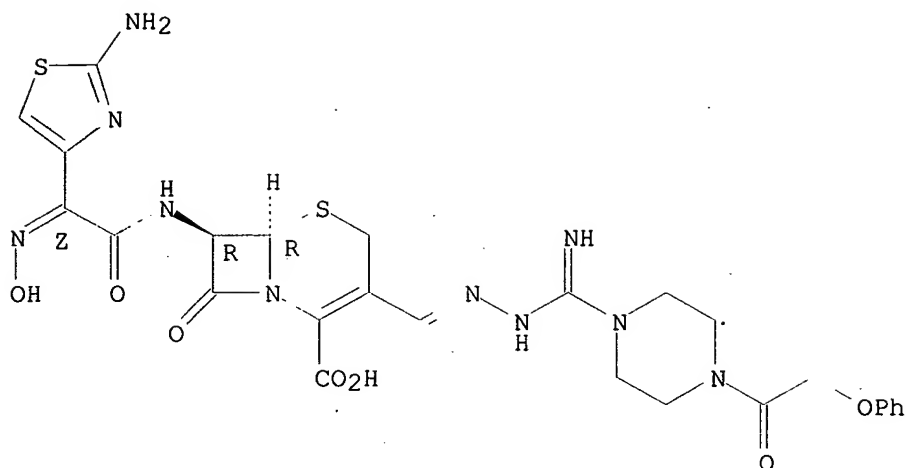
MF C26 H28 N10 O7 S2 . 2 Cl H

SR CA

LC STN Files: CA, CAPLUS

Absolute stereochemistry.

Double bond geometry as described by E or Z.



● 2 HCl

1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

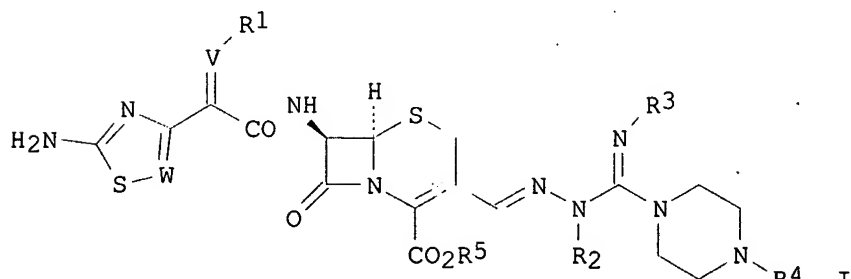
REFERENCE 1: 129:275783 synthesis of antibacterial substituted acylamino(methylhydrazono)methylcephalosporins and intermediates.

Ascher,

Gerd; Wieser, Josef; Schranz, Michael; Ludescher, Johannes; Hildebrandt, Johannes (Biochemie G.m.b.H., Austria). PCT Int. Appl. WO 9843981 A1 19981008, 46 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English).

CODEN: PIXXD2. APPLICATION: WO 1998-EP1890 19980401. PRIORITY: AT 1997-546 19970401; AT 1997-547 19970401; AT 1997-548 19970401.

GI



Prepared by M. Hale 308-4258

Page 119

AB Synthesis of cephalosporins (I) [R1 = H, acyl, carboxyl, alkyl; R2, R3 = H, cycloalkyl, alkyl, alkenyl, alkynyl; R4 = H, C(=Z)R6; R6 = NH2, NHNH2, aminoalkylamino, alkoxy, aryl, cycloaryl, aryloxy, heterocyclyl, alkyl, alkenyl, alkynyl; R5 = H, ester moiety; W = CH, N; V = CH, NO; Z = O, S, NR7; R7 = R2] for use as antibacterials is described. Thus, I (R1 = OCH2F; R2 = Me; R3, R4, R5 = H; W, V = N) is prepd. in 3 steps by acylation of 7-amino-3-formyl-3-cephem-4-carboxylic acid with (5-amino-1,2,4-thiadiazol-3-yl)-(Z)-2-fluoromethoxyiminoacetic acid, reaction of this intermediate with 1-(1-methylhydrazino)iminomethylpiperazine dihydrochloride followed by chromatog.

L3 ANSWER 39 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 214055-47-7 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[[(2Z)-(2-amino-4-thiazolyl)(hydroxyimino)acetyl]amino]-3-[[[4-[(dimethylamino)carbonyl]-1-piperazinyl]iminomethyl]hydrazono]methyl]-8-oxo-, dihydrochloride, (6R,7R)- (9CI) (CA INDEX NAME)

FS STEREOSEARCH

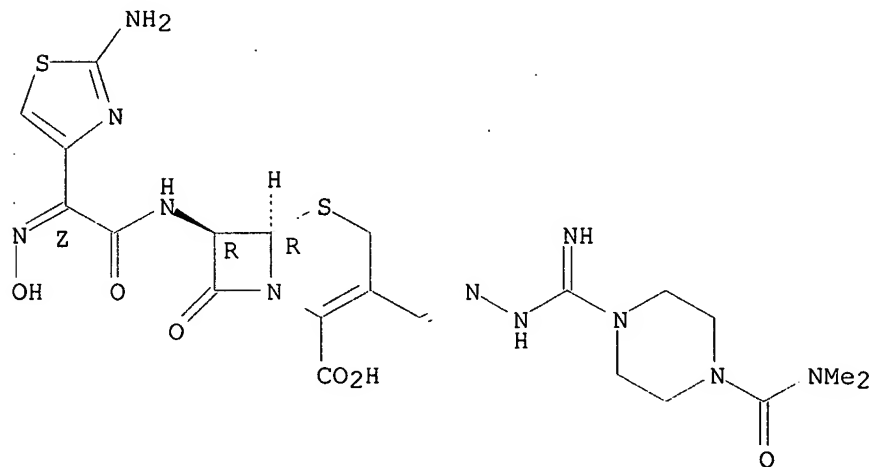
MF C21 H27 N11 O6 S2 . 2 Cl H

SR CA

LC STN Files: CA, CAPLUS

Absolute stereochemistry.

Double bond geometry as described by E or Z.



● 2 HCl

1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

Prepared by M. Hale 308-4258

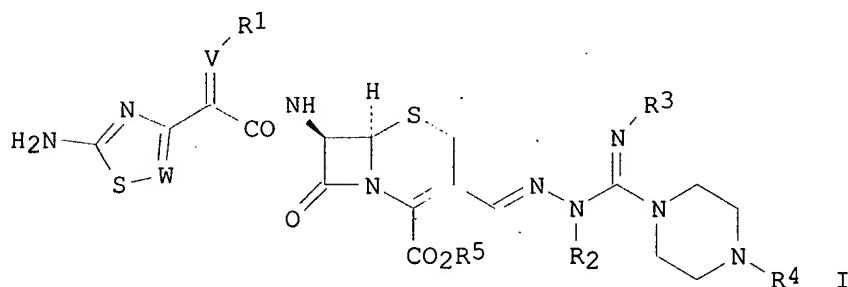
Page 120

REFERENCE 1: 129:275783 synthesis of antibacterial substituted  
acylamino(methylhydrazono)methylcephalosporins and intermediates.

Ascher,

Gerd; Wieser, Josef; Schranz, Michael; Ludescher, Johannes; Hildebrandt, Johannes (Biochemie G.m.b.H., Austria). PCT Int. Appl. WO 9843981 A1 19981008, 46 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1998-EP1890 19980401. PRIORITY: AT 1997-546 19970401; AT 1997-547 19970401; AT 1997-548 19970401.

GI



AB Synthesis of cephalosporins (I) [R1 = H, acyl, carboxyl, alkyl; R2, R3 = H, cycloalkyl, alkyl, alkenyl, alkynyl; R4 = H, C(=Z)R6; R6 = NH2, NHNH2, aminoalkylamino, alkoxy, aryl, cycloaryl, aryloxy, heterocyclyl, alkyl, alkenyl, alkynyl; R5 = H, ester moiety; W = CH, N; V = CH, NO; Z = O, S, NR7; R7 = R2] for use as antibacterials is described. Thus, I (R1 = OCH2F; R2 = Me; R3, R4, R5 = H; W, V = N) is prepd. in 3 steps by acylation of 7-amino-3-formyl-3-cephem-4-carboxylic acid with (5-amino-1,2,4-thiadiazol-3-yl)-(Z)-2-fluoromethoxyiminoacetic acid, reaction of this intermediate with 1-(1-methylhydrazino)iminomethylpiperazine dihydrochloride followed by chromatog.

L3 ANSWER 40 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 214055-46-6 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,  
7-[[[(2Z)-(2-amino-4-thiazolyl)(hydroxyimino)acetyl]amino]-3-[[[4-[(2-

amino-4-thiazolyl)(hydroxyimino)acetyl]-1-piperazinyl]iminomethyl]hydrazon  
o]methyl]-8-oxo-, trihydrochloride, (6R,7R)- (9CI) (CA INDEX NAME)

FS STEREOSEARCH

MF C23 H25 N13 O7 S3 . 3 Cl H

SR CA

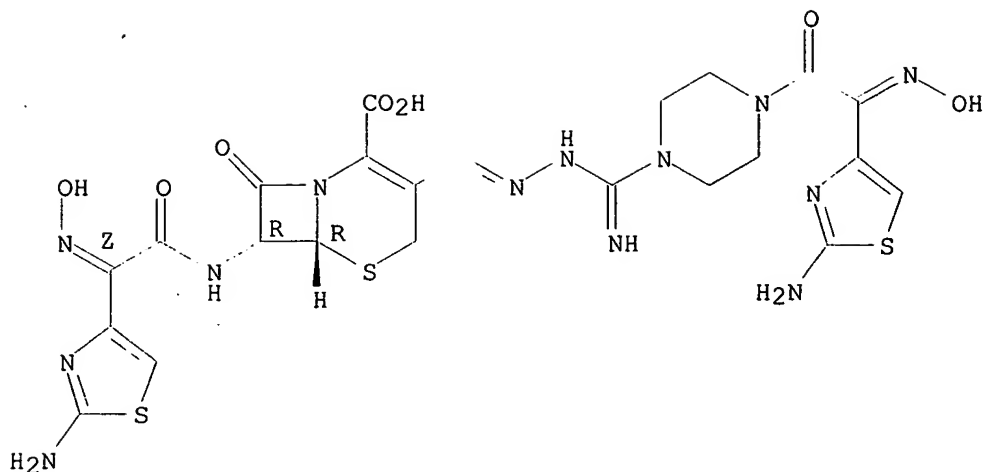
LC STN Files: . CA, CAPLUS

Absolute stereochemistry.

Double bond geometry as described by E or Z.

Prepared by M. Hale 308-4258

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● 3 HCl

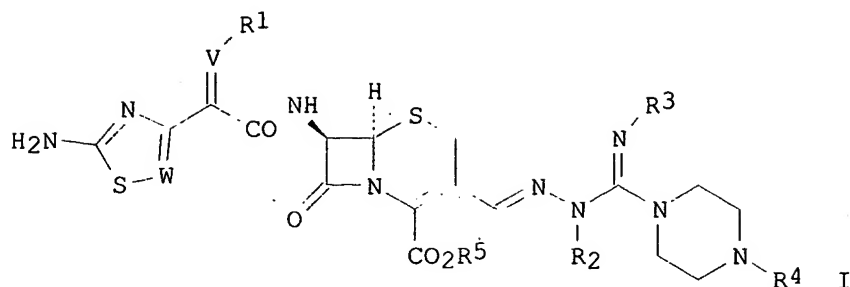
1 REFERENCES IN FILE CA (1967 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 129:275783 synthesis of antibacterial substituted  
acylamino(methylhydrazono)methylcephalosporins and intermediates.

Ascher,

Gerd; Wieser, Josef; Schranz, Michael; Ludescher, Johannes; Hildebrandt, Johannes (Biochemie G.m.b.H., Austria). PCT Int. Appl. WO 9843981 A1 19981008, 46 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1998-EP1890 19980401. PRIORITY: AT 1997-546 19970401; AT 1997-547 19970401; AT 1997-548 19970401.

GI



AB Synthesis of cephalosporins (I) [R1 = H, acyl, carboxyl, alkyl; R2, R3 = H, cycloalkyl, alkyl, alkenyl, alkynyl; R4 = H, C(=Z)R6; R6 = NH2, NHH2, aminoalkylamino, alkoxy, aryl, cycloaryl, aryloxy, heterocyclyl, alkyl, alkenyl, alkynyl; R5 = H, ester moiety; W = CH, N; V = CH, NO; Z = O, S, NR7; R7 = R2] for use as antibacterials is described. Thus, I (R1 = OCH2F; R2 = Me; R3, R4, R5 = H; W, V = N) is prepd. in 3 steps by acylation of 7-amino-3-formyl-3-cephem-4-carboxylic acid with (5-amino-1,2,4-thiadiazol-3-yl)-(Z)-2-fluoromethoxyiminoacetic acid, reaction of this intermediate with 1-(1-methylhydrazino)iminomethylpiperazine dihydrochloride followed by chromatog.

L3 ANSWER 41 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 214055-45-5 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[[(2Z)-(2-amino-4-thiazolyl)(hydroxyimino)acetyl]amino]-3-[[[imino[4-(phenylacetyl)-1-piperazinyl]methyl]hydrazono]methyl]-8-oxo-, dihydrochloride, (6R,7R)- (9CI) (CA INDEX NAME)

FS STEREOSEARCH

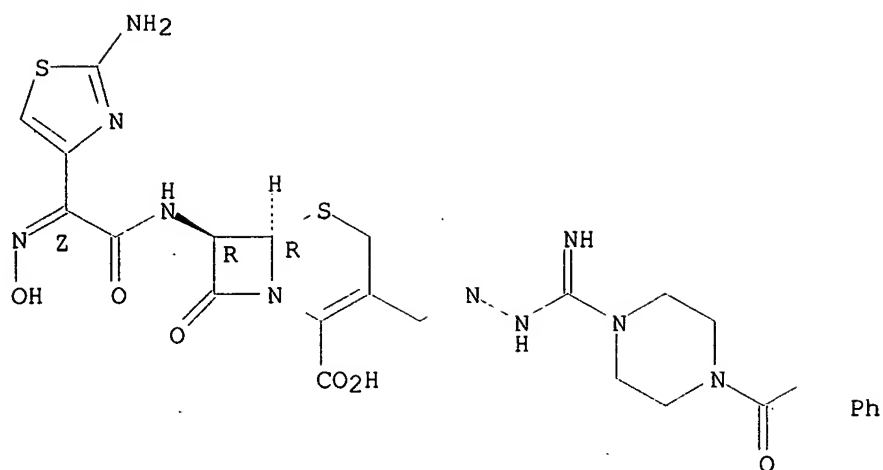
MF C26 H28 N10 O6 S2 . 2 Cl H

SR CA

LC STN Files: CA, CAPLUS

Absolute stereochemistry.

Double bond geometry as described by E or Z.



● 2 HCl

1 REFERENCES IN FILE CA (1967 TO DATE)

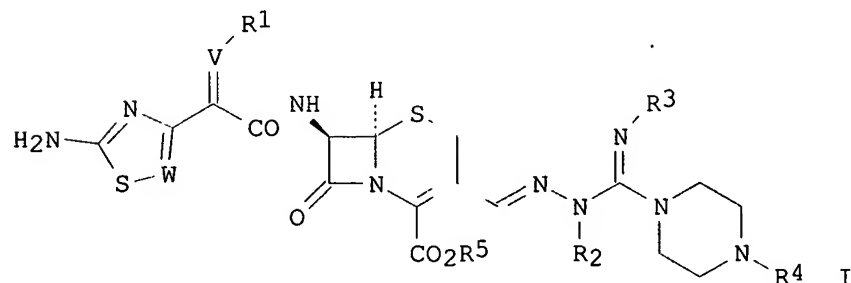
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 129:275783 synthesis of antibacterial substituted acylamino(methylhydrazono)methylcephalosporins and intermediates.

Ascher,

Gerd; Wieser, Josef; Schranz, Michael; Ludescher, Johannes; Hildebrandt, Johannes (Biochemie G.m.b.H., Austria). PCT Int. Appl. WO 9843981 A1 19981008, 46 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1998-EP1890 19980401. PRIORITY: AT 1997-546 19970401; AT 1997-547 19970401; AT 1997-548 19970401.

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Prepared by M. Hale 308-4258

Page 124

AB Synthesis of cephalosporins (I) [R1 = H, acyl, carboxyl, alkyl; R2, R3 = H, cycloalkyl, alkyl, alkenyl, alkynyl; R4 = H, C(=Z)R6; R6 = NH2, NHNH2, aminoalkylamino, alkoxy, aryl, cycloaryl, aryloxy, heterocyclyl, alkyl, alkenyl, alkynyl; R5 = H, ester moiety; W = CH, N; V = CH, NO; Z = O, S, NR7; R7 = R2] for use as antibacterials is described. Thus, I (R1 = OCH2F; R2 = Me; R3, R4, R5 = H; W, V = N) is prepd. in 3 steps by acylation of 7-amino-3-formyl-3-cephem-4-carboxylic acid with (5-amino-1,2,4-thiadiazol-3-yl)-(Z)-2-fluoromethoxyiminoacetic acid, reaction of this intermediate with 1-(1-methylhydrazino)iminomethylpiperazine dihydrochloride followed by chromatog.

L3 ANSWER 42 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 214055-44-4 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 3-[[[(4-acetyl-1-piperazinyl)iminomethyl]hydrazono]methyl]-7-[[[(2Z)-(2-amino-4-thiazolyl)(hydroxyimino)acetyl]amino]-8-oxo-, dihydrochloride, (6R,7R)- (9CI) (CA INDEX NAME)

FS STEREOSEARCH

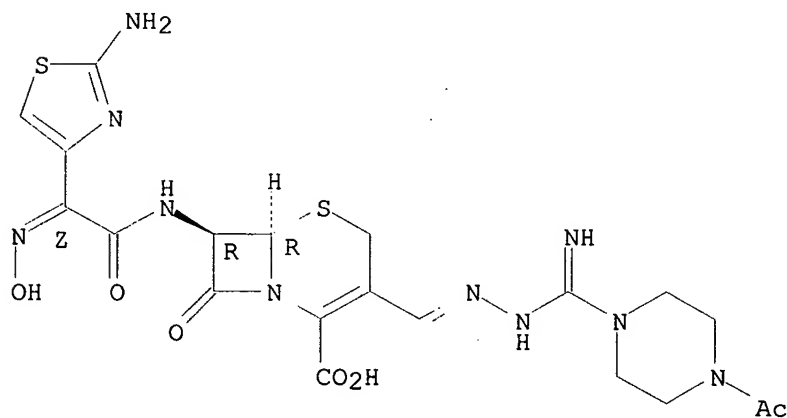
MF C20 H24 N10 O6 S2 . 2 Cl H

SR CA

LC STN Files: CA, CAPLUS

Absolute stereochemistry.

Double bond geometry as described by E or Z.



● 2 HCl

1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 129:275783 synthesis of antibacterial substituted acylamino(methylhydrazono)methylcephalosporins and intermediates.

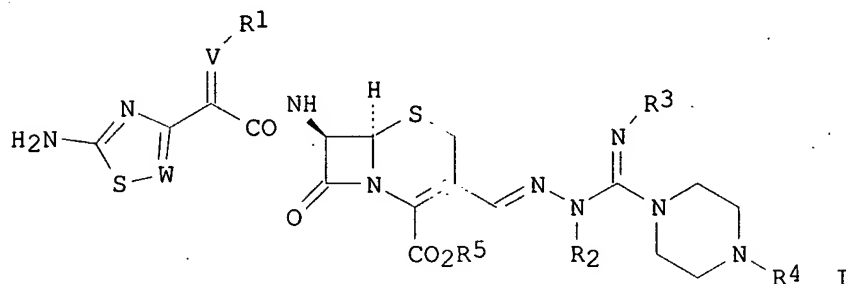
Ascher,

Prepared by M. Hale 308-4258

Page 125

Gerd; Wieser, Josef; Schranz, Michael; Ludescher, Johannes; Hildebrandt, Johannes (Biochemie G.m.b.H., Austria). PCT Int. Appl. WO 9843981 A1 19981008, 46 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1998-EP1890 19980401. PRIORITY: AT 1997-546 19970401; AT 1997-547 19970401; AT 1997-548 19970401.

GI



AB Synthesis of cephalosporins (I) [R1 = H, acyl, carboxyl, alkyl; R2, R3 = H, cycloalkyl, alkyl, alkenyl, alkynyl; R4 = H, C(=Z)R6; R6 = NH2, NHNH2, aminoalkylamino, alkoxy, aryl, cycloaryl, aryloxy, heterocyclyl, alkyl, alkenyl, alkynyl; R5 = H, ester moiety; W = CH, N; V = CH, NO; Z = O, S, NR7; R7 = R2] for use as antibacterials is described. Thus, I (R1 = OCH2F; R2 = Me; R3, R4, R5 = H; W, V = N) is prepd. in 3 steps by acylation of 7-amino-3-formyl-3-cephem-4-carboxylic acid with (5-amino-1,2,4-thiadiazol-3-yl)-(Z)-2-fluoromethoxyiminoacetic acid, reaction of this intermediate with

1-(1-methylhydrazino)iminomethylpiperazine dihydrochloride followed by chromatog.

L3 ANSWER 43 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 214055-43-3 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,

7-[[[(2Z)-(2-amino-4-thiazolyl)(hydroxyimino)acetyl]amino]-3-[[[(4-benzoyl-1-piperazinyl)iminomethyl]hydrazono]methyl]-8-oxo-, dihydrochloride, (6R,7R)- (9CI) (CA INDEX NAME)

FS STEREOSEARCH

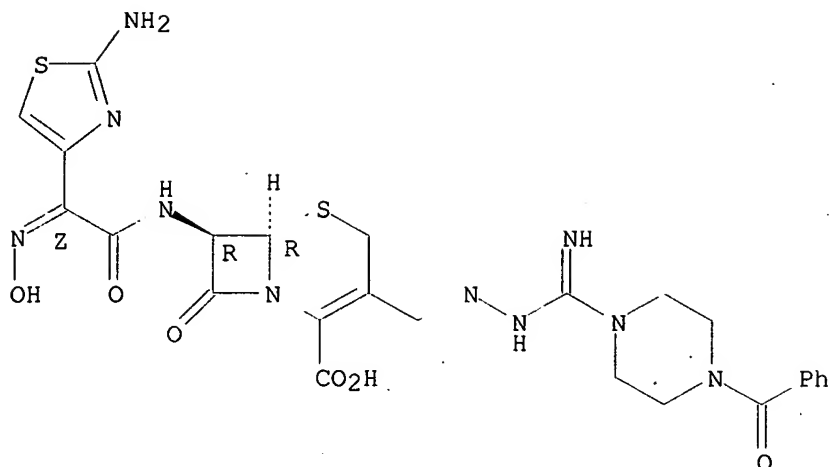
MF C25 H26 N10 O6 S2 . 2 Cl H

SR CA

LC STN Files: CA, CAPLUS

Absolute stereochemistry.

Double bond geometry as described by E or Z.



● 2 HCl

1 REFERENCES IN FILE CA (1967 TO DATE)

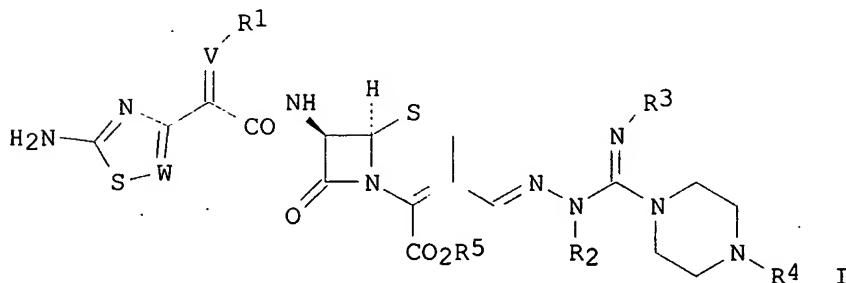
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 129:275783 synthesis of antibacterial substituted acylamino(methylhydrazono)methylcephalosporins and intermediates.

Ascher,

Gerd; Wieser, Josef; Schranz, Michael; Ludescher, Johannes; Hildebrandt, Johannes (Biochemie G.m.b.H., Austria). PCT Int. Appl. WO 9843981 A1 19981008, 46 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1998-EP1890 19980401. PRIORITY: AT 1997-546 19970401; AT 1997-547 19970401; AT 1997-548 19970401.

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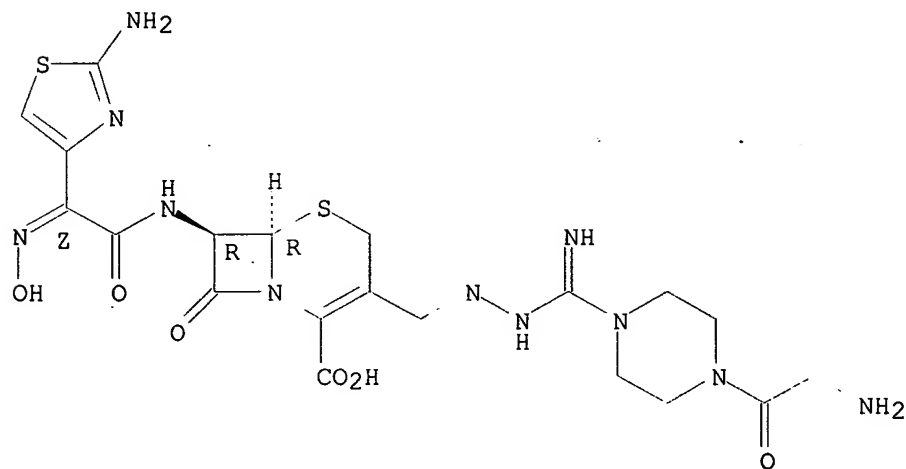
AB Synthesis of cephalosporins (I) [R1 = H, acyl, carboxyl, alkyl; R2, R3 = H, cycloalkyl, alkyl, alkenyl, alkynyl; R4 = H, C(=Z)R6; R6 = NH2, NHHH2, aminoalkylamino, alkoxy, aryl, cycloaryl, aryloxy, heterocyclyl, alkyl, alkenyl, alkynyl; R5 = H, ester moiety; W = CH, N; V = CH, NO; Z = O, S, NR7; R7 = R2] for use as antibacterials is described. Thus, I (R1 = OCH2F; R2 = Me; R3, R4, R5 = H; W, V = N) is prepd. in 3 steps by acylation of 7-amino-3-formyl-3-cephem-4-carboxylic acid with (5-amino-1,2,4-thiadiazol-3-yl)-(Z)-2-fluoromethoxyiminoacetic acid, reaction of this intermediate with 1-(1-methylhydrazino)iminomethylpiperazine dihydrochloride followed by chromatog.

L3 ANSWER 44 OF 148 REGISTRY COPYRIGHT 2000 ACS  
 RN 214055-42-2 REGISTRY  
 CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,

3-[[[4-(aminoacetyl)-1-piperazinyl]iminomethyl]hydrazono]methyl]-7-[[[(2Z)-(2-amino-4-thiazolyl)(hydroxyimino)acetyl]amino]-8-oxo-, trihydrochloride,  
 (6R,7R)- (9CI) (CA INDEX NAME)

FS STEREOSEARCH  
 MF C20 H25 N11 O6 S2 . 3 Cl H  
 SR CA  
 LC STN Files: CA, CAPLUS

Absolute stereochemistry.  
 Double bond geometry as described by E or Z.



● 3 HCl

1 REFERENCES IN FILE CA (1967 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

Prepared by M. Hale 308-4258

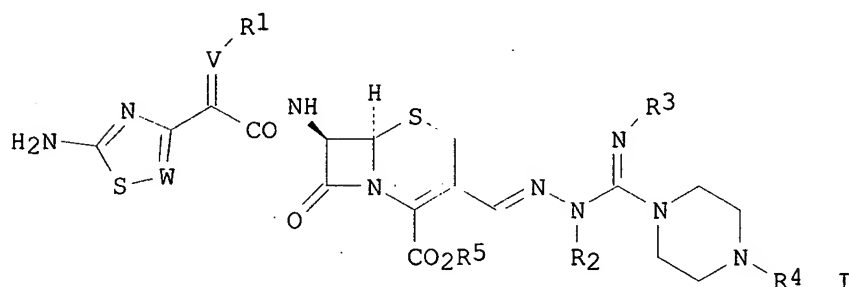
Page 128

REFERENCE 1: 129:275783 synthesis of antibacterial substituted acylamino(methylhydrazono)methylcephalosporins and intermediates.

Ascher,

Gerd; Wieser, Josef; Schranz, Michael; Ludescher, Johannes; Hildebrandt, Johannes (Biochemie G.m.b.H., Austria). PCT Int. Appl. WO 9843981 A1 19981008, 46 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1998-EP1890 19980401. PRIORITY: AT 1997-546 19970401; AT 1997-547 19970401; AT 1997-548 19970401.

GI



AB Synthesis of cephalosporins (I) [R1 = H, acyl, carboxyl, alkyl; R2, R3 = H, cycloalkyl, alkyl, alkenyl, alkynyl; R4 = H, C(=Z)R6; R6 = NH2, NHNH2, aminoalkylamino, alkoxy, aryl, cycloaryl, aryloxy, heterocyclyl, alkyl, alkenyl, alkynyl; R5 = H, ester moiety; W = CH, N; V = CH, NO; Z = O, S, NR7; R7 = R2] for use as antibacterials is described. Thus, I (R1 = OCH2F; R2 = Me; R3, R4, R5 = H; W, V = N) is prepd. in 3 steps by acylation of 7-amino-3-formyl-3-cephem-4-carboxylic acid with (5-amino-1,2,4-thiadiazol-3-yl)-(Z)-2-fluoromethoxyiminoacetic acid, reaction of this intermediate with 1-(1-methylhydrazino)iminomethylpiperazine dihydrochloride followed by chromatog.

L3 ANSWER 45 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 214055-41-1 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[[(2Z)-(2-amino-4-thiazolyl)(hydroxyimino)acetyl]amino]-3-[[[4-(ethoxycarbonyl)-1-piperazinyl]iminomethyl]hydrazono]methyl]-8-oxo-, dihydrochloride, (6R,7R)- (9CI) (CA INDEX NAME)

FS STEREOSEARCH

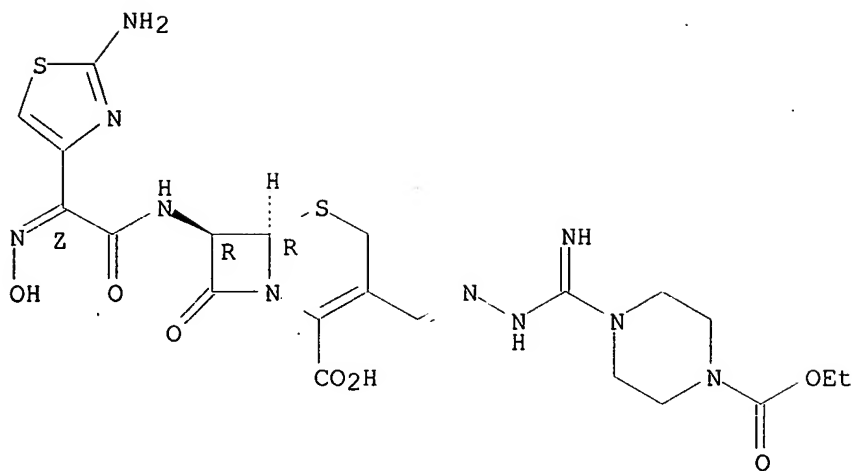
MF C21 H26 N10 O7 S2 . 2 Cl H

SR CA

LC STN Files: CA, CAPLUS

Absolute stereochemistry.

Double bond geometry as described by E or Z.



● 2 HCl

1 REFERENCES IN FILE CA (1967 TO DATE)

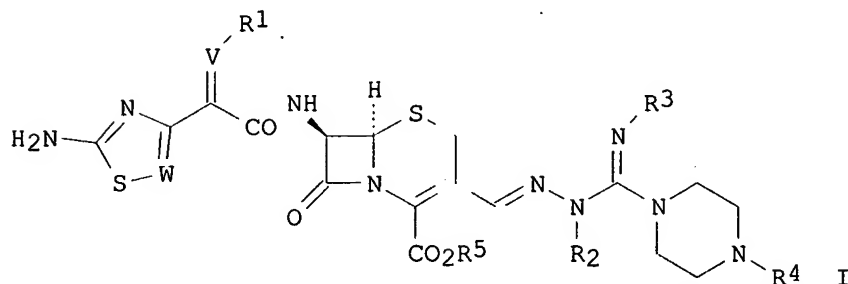
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 129:275783 synthesis of antibacterial substituted acylamino(methylhydrazono)methylcephalosporins and intermediates.

Ascher,

Gerd; Wieser, Josef; Schranz, Michael; Ludescher, Johannes; Hildebrandt, Johannes (Biochemie G.m.b.H., Austria). PCT Int. Appl. WO 9843981 A1 19981008, 46 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1998-EP1890 19980401. PRIORITY: AT 1997-546 19970401; AT 1997-547 19970401; AT 1997-548 19970401.

GI



Prepared by M. Hale 308-4258

Page 130

AB Synthesis of cephalosporins (I) [R1 = H, acyl, carboxyl, alkyl; R2, R3 = H, cycloalkyl, alkyl, alkenyl, alkynyl; R4 = H, C(=Z)R6; R6 = NH2, NHH2, aminoalkylamino, alkoxy, aryl, cycloaryl, aryloxy, heterocyclyl, alkyl, alkenyl, alkynyl; R5 = H, ester moiety; W = CH, N; V = CH, NO; Z = O, S, NR7; R7 = R2] for use as antibacterials is described. Thus, I (R1 = OCH2F; R2 = Me; R3, R4, R5 = H; W, V = N) is prep'd. in 3 steps by acylation of 7-amino-3-formyl-3-cephem-4-carboxylic acid with (5-amino-1,2,4-thiadiazol-3-yl)-(Z)-2-fluoromethoxyiminoacetic acid, reaction of this intermediate with 1-(1-methylhydrazino)iminomethylpiperazine dihydrochloride followed by chromatog.

L3 ANSWER 46 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 214055-40-0 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,

7-[[ (2Z)-(5-amino-1,2,4-thiadiazol-3-yl) [(fluoromethoxy)imino]acetyl]amino

]3-[[ (imino-1-piperazinylmethyl) [(3,4,5-trimethoxyphenyl)methyl]hydrazono]methyl]-8-oxo-, trihydrochloride, (6R,7R)- (9CI) (CA INDEX NAME)

FS STEREOSEARCH

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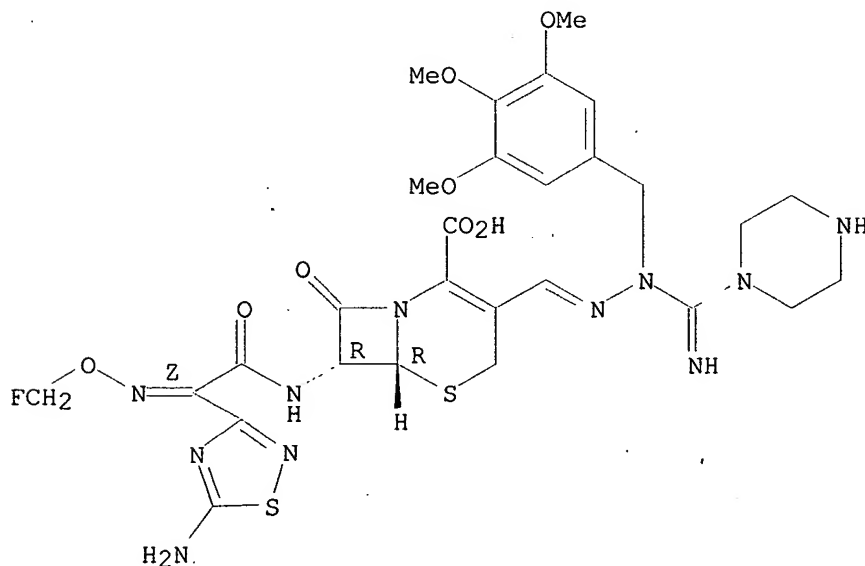
SR CA

LC STN Files: CA, CAPLUS

Absolute stereochemistry.

Double bond geometry as described by E or Z.

PAGE 1-A



● 3 HCl

1 REFERENCES IN FILE CA (1967 TO DATE)

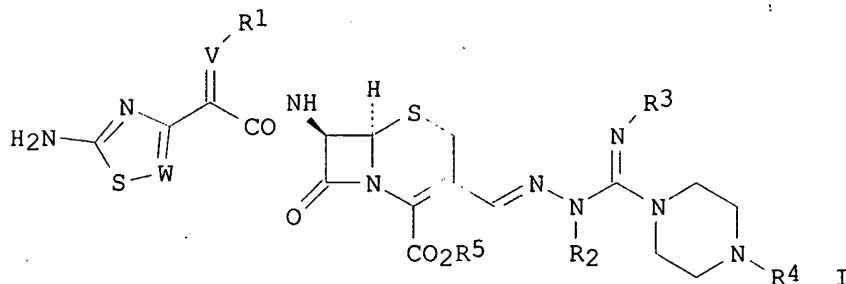
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 129:275783 synthesis of antibacterial substituted acylamino(methylhydrazono)methylcephalosporins and intermediates.

Ascher,

Gerd; Wieser, Josef; Schranz, Michael; Ludescher, Johannes; Hildebrandt, Johannes (Biochemie G.m.b.H., Austria). PCT Int. Appl. WO 9843981 A1 19981008, 46 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1998-EP1890 19980401. PRIORITY: AT 1997-546 19970401; AT 1997-547 19970401; AT 1997-548 19970401.

GI



AB Synthesis of cephalosporins (I) [R1 = H, acyl, carboxyl, alkyl; R2, R3 = H, cycloalkyl, alkyl, alkenyl, alkynyl; R4 = H, C(=Z)R6; R6 = NH2, NHNH2, aminoalkylamino, alkoxy, aryl, cycloaryl, aryloxy, heterocyclyl, alkyl, alkenyl, alkynyl; R5 = H, ester moiety; W = CH, N; V = CH, NO; Z = O, S, NR7; R7 = R2] for use as antibacterials is described. Thus, I (R1 = OCH2F; R2 = Me; R3, R4, R5 = H; W, V = N) is prep'd. in 3 steps by acylation of 7-amino-3-formyl-3-cephem-4-carboxylic acid with (5-amino-1,2,4-thiadiazol-3-yl)-(Z)-2-fluoromethoxyiminoacetic acid, reaction of this intermediate with 1-(1-methylhydrazino)iminomethylpiperazine dihydrochloride followed by chromatog.

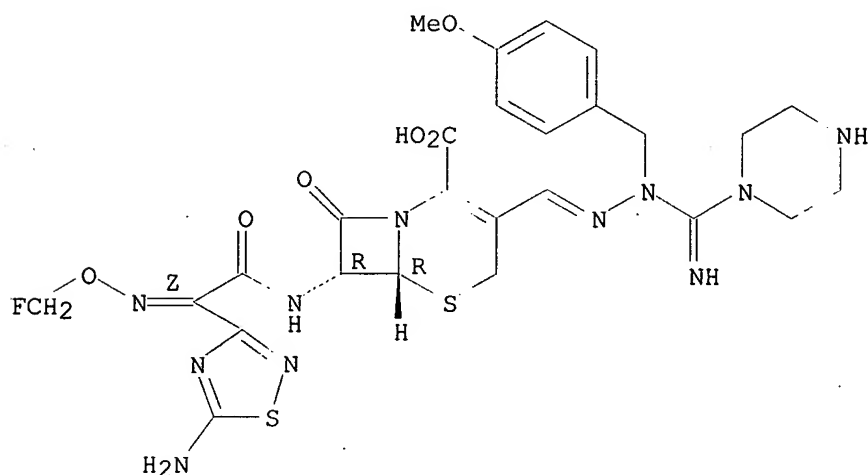
L3 ANSWER 47 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 214055-39-7 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,  
Prepared by M. Hale 308-4258

7-[[ (2Z)-(5-amino-1,2,4-thiadiazol-3-yl) [(fluoromethoxy)imino]acetyl]amino  
 ]-3-[[ (imino-1-piperazinylmethyl) [(4-methoxyphenyl)methyl]hydrazono]methyl  
 ]-8-oxo-, trihydrochloride, (6R,7R)- (9CI) (CA INDEX NAME)  
 FS STEREOSEARCH  
 MF C26 H30 F N11 O6 S2 . 3 Cl H  
 SR CA  
 LC STN Files: CA, CAPLUS

Absolute stereochemistry.  
 Double bond geometry as described by E or Z.



● 3 HCl

1 REFERENCES IN FILE CA (1967 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 129:275783 synthesis of antibacterial substituted  
 acylamino(methylhydrazono)methylcephalosporins and intermediates.

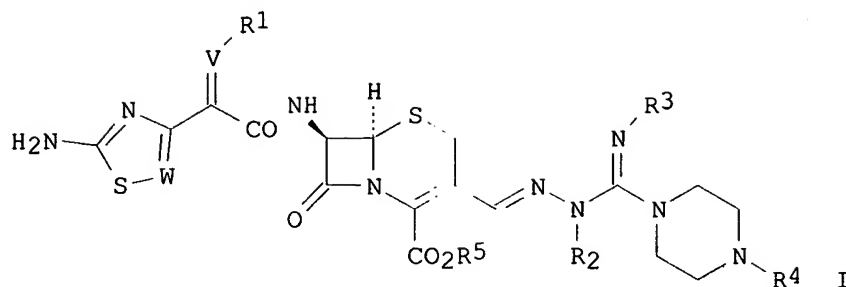
Ascher,

Gerd; Wieser, Josef; Schranz, Michael; Ludescher, Johannes; Hildebrandt,  
 Johannes (Biochemie G.m.b.H., Austria). PCT Int. Appl. WO 9843981 A1  
 19981008, 46 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG,  
 BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU,  
 ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG,  
 MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM,  
 TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM;  
 RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB,  
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 CODEN: PIXXD2. APPLICATION: WO 1998-EP1890 19980401. PRIORITY: AT  
 1997-546 19970401; AT 1997-547 19970401; AT 1997-548 19970401.

GI

Prepared by M. Hale 308-4258

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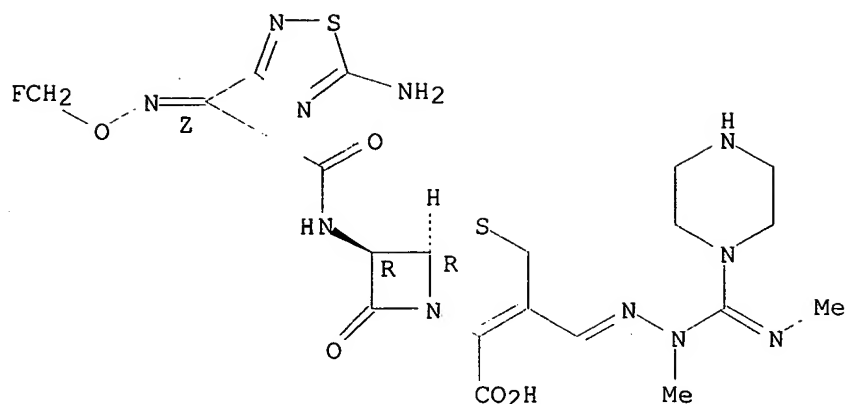
AB Synthesis of cephalosporins (I) [R1 = H, acyl, carboxyl, alkyl; R2, R3 = H, cycloalkyl, alkyl, alkenyl, alkynyl; R4 = H, C(=Z)R6; R6 = NH2, NHHH2, aminoalkylamino, alkoxy, aryl, cycloaryl, aryloxy, heterocyclyl, alkyl, alkenyl, alkynyl; R5 = H, ester moiety; W = CH, N; V = CH, NO; Z = O, S, NR7; R7 = R2] for use as antibacterials is described. Thus, I (R1 = OCH2F; R2 = Me; R3, R4, R5 = H; W, V = N) is prepd. in 3 steps by acylation of 7-amino-3-formyl-3-cephem-4-carboxylic acid with (5-amino-1,2,4-thiadiazol-3-yl)-(Z)-2-fluoromethoxyiminoacetic acid, reaction of this intermediate with 1-(1-methylhydrazino)iminomethylpiperazine dihydrochloride followed by chromatog.

L3 ANSWER 48 OF 148 REGISTRY COPYRIGHT 2000 ACS  
 RN 214055-38-6 REGISTRY  
 CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,

7-[[ (2Z)-(5-amino-1,2,4-thiadiazol-3-yl) [(fluoromethoxy)imino]acetyl]amino ]-3-[[methyl[(methyylimino)-1-piperazinylmethyl]hydrazono]methyl]-8-oxo-, monohydrochloride, (6R,7R)- (9CI) (CA INDEX NAME)

FS STEREOSEARCH  
 MF C20 H26 F N11 O5 S2 . C1 H  
 SR CA  
 LC STN Files: CA, CAPLUS

Absolute stereochemistry.  
 Double bond geometry as described by E or Z.



● HCl

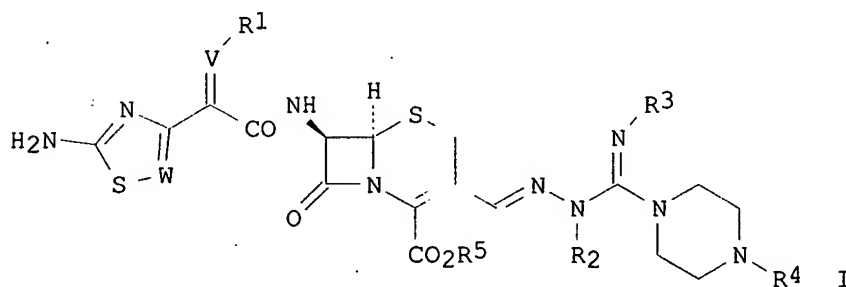
1 REFERENCES IN FILE CA (1967 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 129:275783 synthesis of antibacterial substituted  
acylamino(methylhydrazono)methylcephalosporins and intermediates.

Ascher,

Gerd; Wieser, Josef; Schranz, Michael; Ludescher, Johannes; Hildebrandt, Johannes (Biochemie G.m.b.H., Austria). PCT Int. Appl. WO 9843981 A1 19981008, 46 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1998-EP1890 19980401. PRIORITY: AT 1997-546 19970401; AT 1997-547 19970401; AT 1997-548 19970401.

GI



AB Synthesis of cephalosporins (I) [R1 = H, acyl, carboxyl, alkyl; R2, R3 =  
Prepared by M. Hale 308-4258 Page 135

H, cycloalkyl, alkyl, alkenyl, alkynyl; R4 = H, C(=Z)R6; R6 = NH2, NHH2, aminoalkylamino, alkoxy, aryl, cycloaryl, aryloxy, heterocyclyl, alkyl, alkenyl, alkynyl; R5 = H, ester moiety; W = CH, N; V = CH, NO; Z = O, S, NR7; R7 = R2] for use as antibacterials is described. Thus, I (R1 = OCH2F; R2 = Me; R3, R4, R5 = H; W, V = N) is prepd. in 3 steps by acylation of 7-amino-3-formyl-3-cephem-4-carboxylic acid with

(5-amino-1,2,4-thiadiazol-3-yl)-(Z)-2-fluoromethoxyiminoacetic acid, reaction of this intermediate with

1-(1-methylhydrazino)iminomethylpiperazine dihydrochloride followed by chromatog.

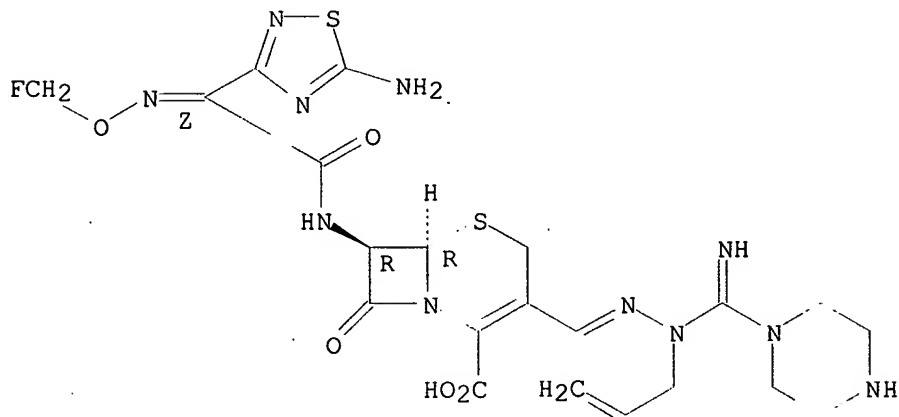
L3 ANSWER 49 OF 148 REGISTRY COPYRIGHT 2000 ACS  
 RN 214055-37-5 REGISTRY  
 CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,

7-[[ (2Z) - (5-amino-1,2,4-thiadiazol-3-yl) [(fluoromethoxy)imino]acetyl]amino]-3-[[ (imino-1-piperazinylmethyl)-2-propenylhydrazono]methyl]-8-oxo-, trihydrochloride, (6R,7R)- (9CI) (CA INDEX NAME)

FS STEREOSEARCH  
 MF C21 H26 F N11 O5 S2 . 3 Cl H  
 SR CA  
 LC STN Files: CA, CAPLUS

Absolute stereochemistry.

Double bond geometry as described by E or Z.



● 3 HCl

1 REFERENCES IN FILE CA (1967 TO DATE)  
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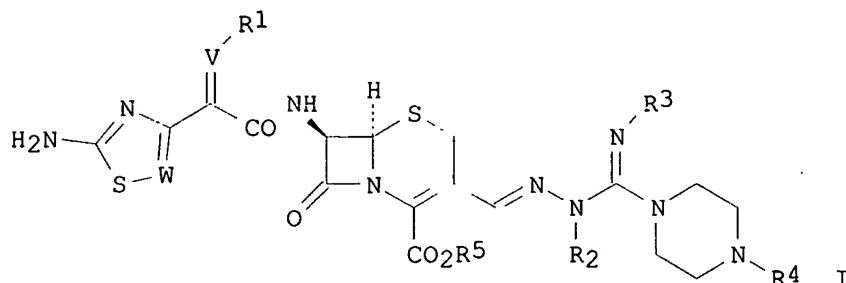
REFERENCE 1: 129:275783 synthesis of antibacterial substituted acylamino(methylhydrazono)methylcephalosporins and intermediates.

Ascher,

Gerd; Wieser, Josef; Schranz, Michael; Ludescher, Johannes; Hildebrandt, Prepared by M. Hale 308-4258 Page 136

Johannes (Biochemie G.m.b.H., Austria). PCT Int. Appl. WO 9843981 A1 19981008, 46 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1998-EP1890 19980401. PRIORITY: AT 1997-546 19970401; AT 1997-547 19970401; AT 1997-548 19970401.

GI



AB Synthesis of cephalosporins (I) [R1 = H, acyl, carboxyl, alkyl; R2, R3 = H, cycloalkyl, alkyl, alkenyl, alkynyl; R4 = H, C(=Z)R6; R6 = NH2, NHNH2, aminoalkylamino, alkoxy, aryl, cycloaryl, aryloxy, heterocyclyl, alkyl, alkenyl, alkynyl; R5 = H, ester moiety; W = CH, N; V = CH, NO; Z = O, S, NR7; R7 = R2] for use as antibacterials is described. Thus, I (R1 = OCH2F; R2 = Me; R3, R4, R5 = H; W, V = N) is prepd. in 3 steps by acylation of 7-amino-3-formyl-3-cephem-4-carboxylic acid with (5-amino-1,2,4-thiadiazol-3-yl)-(Z)-2-fluoromethoxyiminoacetic acid, reaction of this intermediate with 1-(1-methylhydrazino)iminomethylpiperazine dihydrochloride followed by chromatog.

L3 ANSWER 50 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 214055-36-4 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,

7-[[[(2Z)-(5-amino-1,2,4-thiadiazol-3-yl)[(fluoromethoxy)imino]acetyl]amino]-3-[[[(ethylimino)-1-piperazinylmethyl]methylhydrazono]methyl]-8-oxo-, monohydrochloride, (6R,7R)- (9CI) (CA INDEX NAME)

FS STEREOSEARCH

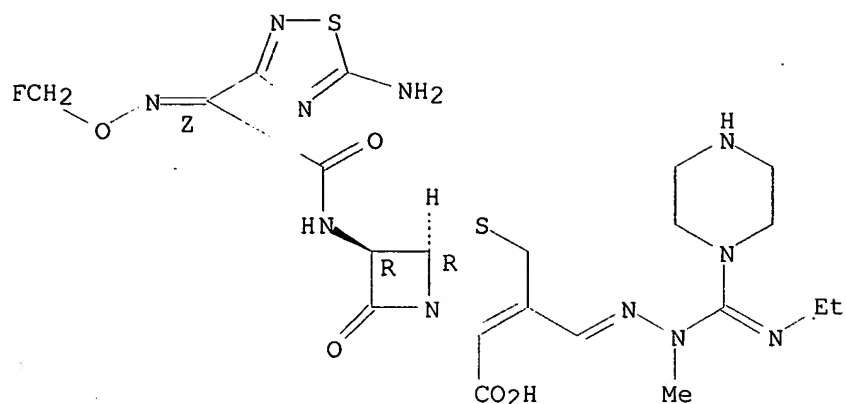
MF C21 H28 F N11 O5 S2 . Cl H

SR CA

LC STN Files: CA, CAPLUS

Absolute stereochemistry.

Double bond geometry as described by E or Z.



● HCl

1 REFERENCES IN FILE CA (1967 TO DATE)

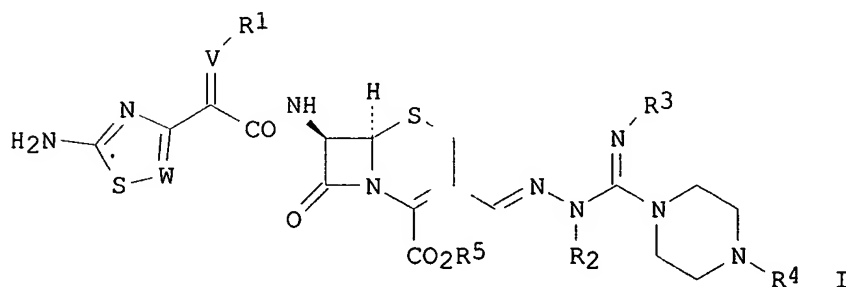
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 129:275783 synthesis of antibacterial substituted acylamino(methylhydrazono)methylcephalosporins and intermediates.

Ascher,

Gerd; Wieser, Josef; Schranz, Michael; Ludescher, Johannes; Hildebrandt, Johannes (Biochemie G.m.b.H., Austria). PCT Int. Appl. WO 9843981 A1 19981008, 46 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1998-EP1890 19980401. PRIORITY: AT 1997-546 19970401; AT 1997-547 19970401; AT 1997-548 19970401.

GI



AB Synthesis of cephalosporins (I) [R1 = H, acyl, carboxyl, alkyl; R2, R3 = Prepared by M. Hale 308-4258 Page 138

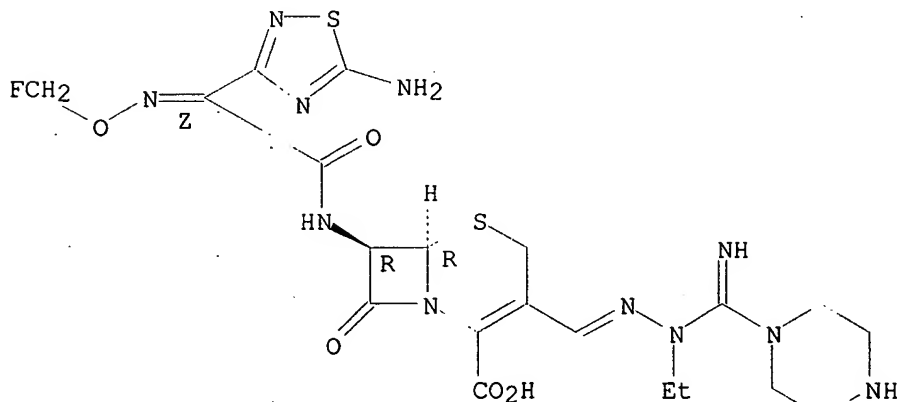
H, cycloalkyl, alkyl, alkenyl, alkynyl; R4 = H, C(=Z)R6; R6 = NH2, NHH2, aminoalkylamino, alkoxy, aryl, cycloaryl, aryloxy, heterocyclyl, alkyl, alkenyl, alkynyl; R5 = H, ester moiety; W = CH, N; V = CH, NO; Z = O, S, NR7; R7 = R2] for use as antibacterials is described. Thus, I (R1 = OCH2F; R2 = Me; R3, R4, R5 = H; W, V = N) is prepd. in 3 steps by acylation of 7-amino-3-formyl-3-cephem-4-carboxylic acid with (5-amino-1,2,4-thiadiazol-3-yl)-(Z)-2-fluoromethoxyiminoacetic acid, reaction of this intermediate with 1-(1-methylhydrazino)iminomethylpiperazine dihydrochloride followed by chromatog.

L3 ANSWER 51 OF 148 REGISTRY COPYRIGHT 2000 ACS  
 RN 214055-35-3 REGISTRY  
 CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,

7-[[ (2Z)-(5-amino-1,2,4-thiadiazol-3-yl) [(fluoromethoxy)imino]acetyl]amino  
 ]-3-[[ethyl(imino-1-piperazinylmethyl)hydrazono]methyl]-8-oxo-,  
 monohydrochloride, (6R,7R)- (9CI) (CA INDEX NAME)

FS STEREOSEARCH  
 MF C20 H26 F N11 O5 S2 . Cl H  
 SR CA  
 LC STN Files: CA, CAPLUS

Absolute stereochemistry.  
 Double bond geometry as described by E or Z.



● HCl

1 REFERENCES IN FILE CA (1967 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 129:275783 synthesis of antibacterial substituted  
 acylamino(methylhydrazono)methylcephalosporins and intermediates.

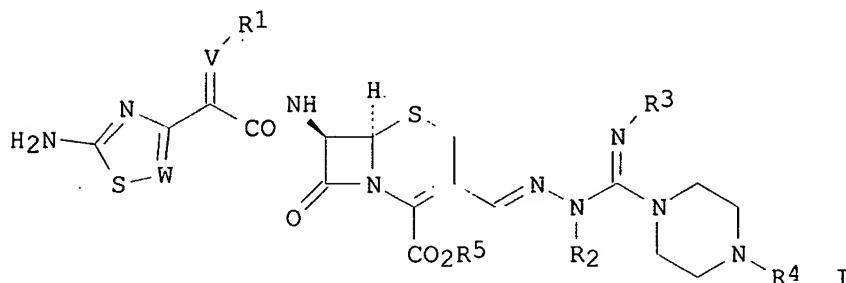
Ascher,

Gerd; Wieser, Josef; Schranz, Michael; Ludescher, Johannes; Hildebrandt,  
 Prepared by M. Hale 308-4258

Page 139

Johannes (Biochemie G.m.b.H., Austria). PCT Int. Appl. WO 9843981 A1 19981008, 46 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1998-EP1890 19980401. PRIORITY: AT 1997-546 19970401; AT 1997-547 19970401; AT 1997-548 19970401.

GI



AB Synthesis of cephalosporins (I) [R1 = H, acyl, carboxyl, alkyl; R2, R3 = H, cycloalkyl, alkyl, alkenyl, alkynyl; R4 = H, C(=Z)R6; R6 = NH2, NHNH2, aminoalkylamino, alkoxy, aryl, cycloaryl, aryloxy, heterocyclyl, alkyl, alkenyl, alkynyl; R5 = H, ester moiety; W = CH, N; V = CH, NO; Z = O, S, NR7; R7 = R2] for use as antibacterials is described. Thus, I (R1 = OCH2F; R2 = Me; R3, R4, R5 = H; W, V = N) is prepd. in 3 steps by acylation of 7-amino-3-formyl-3-cephem-4-carboxylic acid with (5-amino-1,2,4-thiadiazol-3-yl)-(Z)-2-fluoromethoxyiminoacetic acid, reaction of this intermediate with 1-(1-methylhydrazino)iminomethylpiperazine dihydrochloride followed by chromatog.

L3 ANSWER 52 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 214055-34-2 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,

7-[[[(2Z)-(5-amino-1,2,4-thiadiazol-3-yl)[(fluoromethoxy)imino]acetyl]amino]-3-[(E)-[(imino-1-piperazinylmethyl)methylhydrazono]methyl]-8-oxo-, monohydrochloride, (6R,7R)- (9CI) (CA INDEX NAME)

FS STEREOSEARCH

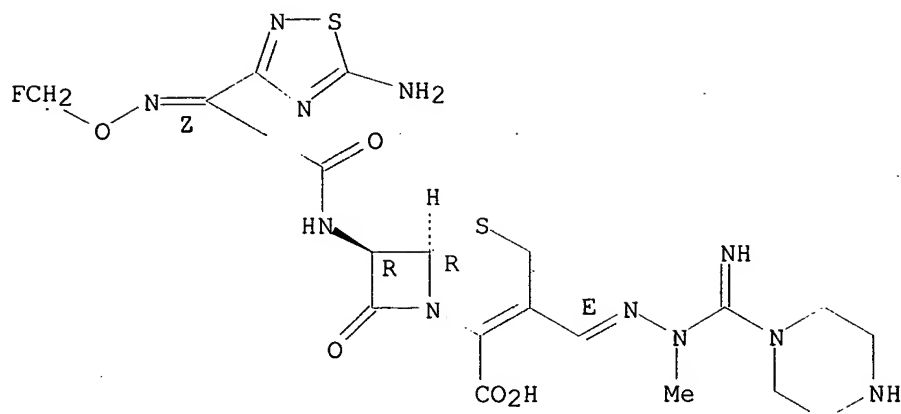
MF C19 H24 F N11 O5 S2 . C1 H

SR CA

LC STN Files: CA, CAPLUS

Absolute stereochemistry.

Double bond geometry as shown.



● HCl

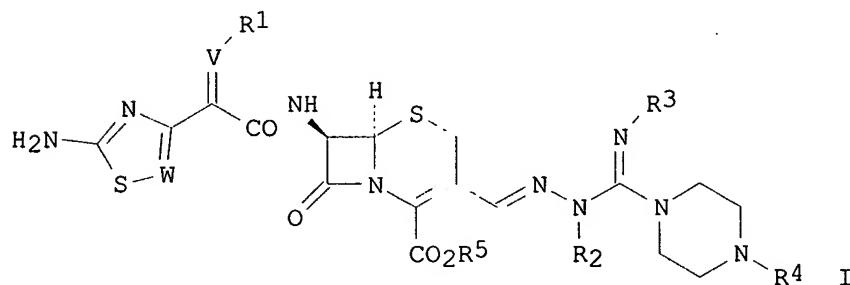
1 REFERENCES IN FILE CA (1967 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 129:275783 synthesis of antibacterial substituted  
acylamino(methylhydrazono)methylcephalosporins and intermediates.

Ascher,

Gerd; Wieser, Josef; Schranz, Michael; Ludescher, Johannes; Hildebrandt, Johannes (Biochemie G.m.b.H., Austria). PCT Int. Appl. WO 9843981 A1 19981008, 46 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1998-EP1890 19980401. PRIORITY: AT 1997-546 19970401; AT 1997-547 19970401; AT 1997-548 19970401.

GI



AB Synthesis of cephalosporins (I) [R1 = H, acyl, carboxyl, alkyl; R2, R3 =  
Prepared by M. Hale 308-4258 Page 141

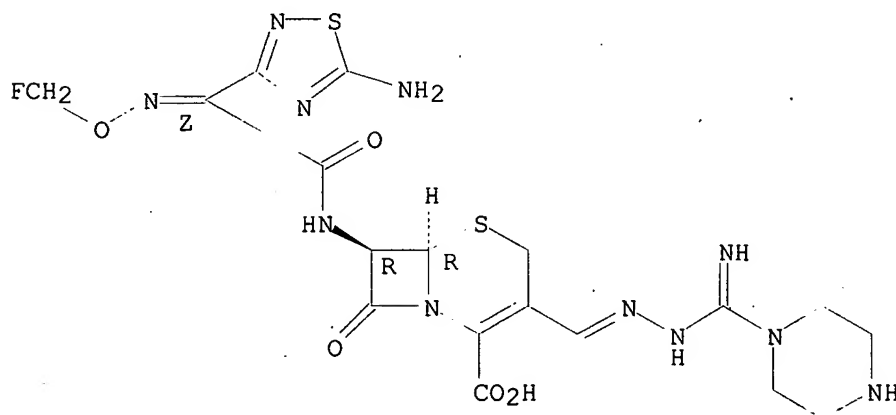
H, cycloalkyl, alkyl, alkenyl, alkynyl; R4 = H, C(=Z)R6; R6 = NH2, NHHH2, aminoalkylamino, alkoxy, aryl, cycloaryl, aryloxy, heterocyclyl, alkyl, alkenyl, alkynyl; R5 = H, ester moiety; W = CH, N; V = CH, NO; Z = O, S, NR7; R7 = R2] for use as antibacterials is described. Thus, I (R1 = OCH2F; R2 = Me; R3, R4, R5 = H; W, V = N) is prepd. in 3 steps by acylation of 7-amino-3-formyl-3-cephem-4-carboxylic acid with (5-amino-1,2,4-thiadiazol-3-yl)-(Z)-2-fluoromethoxyiminoacetic acid, reaction of this intermediate with

1-(1-methylhydrazino)iminomethylpiperazine dihydrochloride followed by chromatog.

L3 ANSWER 53 OF 148 REGISTRY COPYRIGHT 2000 ACS  
 RN 184943-50-8 REGISTRY  
 CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,  
 7-[[[(5-amino-1,2,4-thiadiazol-3-yl)[(fluoromethoxy)imino]acetyl]amino]-3-  
 [[[(imino-1-piperazinylmethyl)hydrazono]methyl]-8-oxo-,  
 [6R-[6.alpha.,7.beta.(Z)]]]- (9CI) (CA INDEX NAME)  
 FS STEREOSEARCH  
 MF C18 H22 F N11 O5 S2  
 CI COM  
 SR CA  
 LC STN Files: CA, CAPLUS

Absolute stereochemistry.

Double bond geometry as described by E or Z.



1 REFERENCES IN FILE CA (1967 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 126:47035 Antibacterial cephalosporins. Ascher, Gerd; Ludescher, Johannes (Biochemie Gesellschaft Mbh, Austria; Ascher, Gerd; Ludescher, Johannes). PCT Int. Appl. WO 9635692 A1 19961114, 124 pp.  
 DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, NL, PT, SE. (English). CODEN: PIXXD2. APPLICATION: WO 1996-EP2023 19960510. PRIORITY: AT 1995-794 19950511; AT 1995-992  
 Prepared by M. Hale 308-4258 Page 142

19950612; AT 1996-698 19960417; AT 1996-733 19960423.

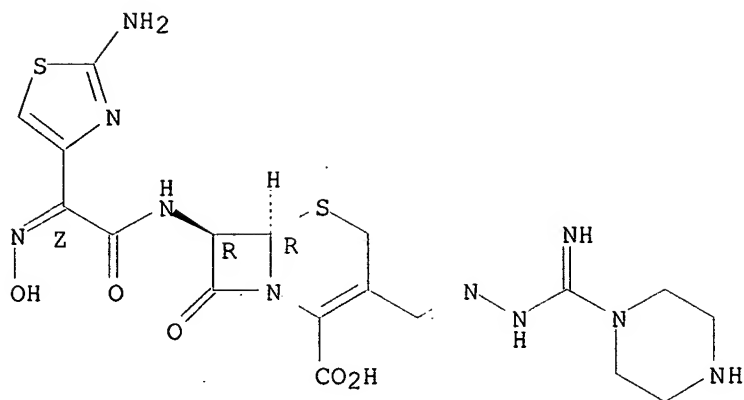
GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB Compds. of formula I (R1 = H or ester moiety, R2 = OY, NR4R5, N:R6, Y =  
H,  
alkyl, alkenyl, acyl, carbamoyl, aryl, R4 = H, alkyl, alkenyl,  
cycloalkyl,  
aryl, acyl, heterocyclyl, R5 = H, alkyl, alkenyl, cycloalkyl, aryl,  
heterocyclyl, C(SR7):NR8, C(NR9R10):Z, CR11:Z, R7 = alkyl or aryl, R8 =  
H,  
cycloalkyl, alkyl, R9 = H or alkyl, R10 = H, alkyl, OH, NH2, Ph, alkenyl,  
cycloalkyl, aryl, heterocyclyl, N:CHPhe, Phe = aryl, R9 and R10 together  
with nitrogen form a heterocyclyl, Z = O, S, NR13, R13 = H, alkyl or  
cycloalkyl, R11 = H, alkyl, aryl, cycloalkyl, or heterocyclyl, R4 and R5  
together with nitrogen form a heterocyclyl, R6 = heterocyclyl, Ac = Ac1,  
COCZ1:CZ2Z3, COCZ1:BDZ4, B = N, CH, Z1 = aryl, cycloalkyl, 1,4-hexadienyl  
or heterocyclyl, Z2 = H, alkyl, CH2CO2Z5, Z5 = H, alkyl, cycloalkyl, Z3 =  
H, alkyl, Z4 = H or org. radical, D = O or CH2), were prepd. thereof for  
use as pharmaceuticals, i.e. as antibacterial agents. Thus, II was  
prepd.  
via condensation of formylcephemcarboxylic acid deriv. III in 4% aq. MeCN  
with guanidine IV in 1-2 N HCl. II has an MHK of 0.01 .mu.g/mL vs.  
Streptococcus pneumoniae (strain ATCC 49619) compared to 0.02 .mu.g/mL  
for  
ceftriaxone.

L3 ANSWER 54 OF 148 REGISTRY COPYRIGHT 2000 ACS  
RN 184943-49-5 REGISTRY  
CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,  
7-[[[(2-amino-4-thiazolyl)(hydroxyimino)acetyl]amino]-3-[[[(imino-1-  
piperazinylmethyl)hydrazono]methyl]-8-oxo-, [6R-[6.alpha.,7.beta.(Z)]]-  
(9CI) (CA INDEX NAME)  
FS STEREOSEARCH  
MF C18 H22 N10 O5 S2  
CI COM  
SR CA  
LC STN Files: CA, CAPLUS

Absolute stereochemistry.  
Double bond geometry as described by E or Z.



1 REFERENCES IN FILE CA (1967 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 126:47035 Antibacterial cephalosporins. Ascher, Gerd; Ludescher, Johannes (Biochemie Gesellschaft Mbh, Austria; Ascher, Gerd; Ludescher, Johannes). PCT Int. Appl. WO 9635692 A1 19961114, 124 pp.  
DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, NL, PT, SE. (English). CODEN: PIXXD2. APPLICATION: WO 1996-EP2023 19960510. PRIORITY: AT 1995-794 19950511; AT 1995-992 19950612; AT 1996-698 19960417; AT 1996-733 19960423.

GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB Compds. of formula I (R1 = H or ester moiety, R2 = OY, NR4R5, N:R6, Y = H, alkyl, alkenyl, acyl, carbamoyl, aryl, R4 = H, alkyl, alkenyl, cycloalkyl, aryl, acyl, heterocyclyl, R5 = H, alkyl, alkenyl, cycloalkyl, aryl, heterocyclyl, C(SR7):NR8, C(NR9R10):Z, CR11:Z, R7 = alkyl or aryl, R8 = H, cycloalkyl, alkyl, R9 = H or alkyl, R10 = H, alkyl, OH, NH2, Ph, alkenyl, cycloalkyl, aryl, heterocyclyl, N:CHPhe, Phe = aryl, R9 and R10 together with nitrogen form a heterocyclyl, Z = O, S, NR13, R13 = H, alkyl or cycloalkyl, R11 = H, alkyl, aryl, cycloalkyl, or heterocyclyl, R4 and R5 together with nitrogen form a heterocyclyl, R6 = heterocyclyl, Ac = Acl, COCZ1: CZ2Z3, COCZ1: BDZ4, B = N, CH, Z1 = aryl, cycloalkyl, 1,4-hexadienyl or heterocyclyl, Z2 = H, alkyl, CH2CO2Z5, Z5 = H, alkyl, cycloalkyl, Z3 = H, alkyl, Z4 = H or org. radical, D = O or CH2), were prepd. thereof for use as pharmaceuticals, i.e. as antibacterial agents. Thus, II was prepd.

via condensation of formylcephemcarboxylic acid deriv. III in 4% aq. MeCN  
Prepared by M. Hale 308-4258 Page 144

for

FS

Double bond geometry as described by E or Z.



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1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

CZ,

19950612; AT 1996-698 19960417; AT 1996-733 19960423.

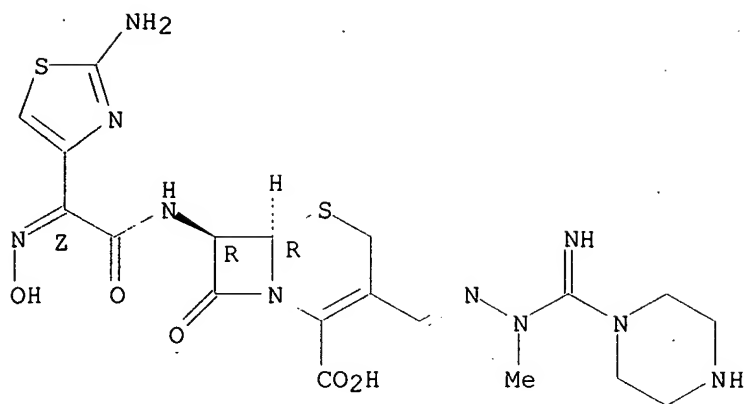
GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB Compds. of formula I (R1 = H or ester moiety, R2 = OY, NR4R5, N:R6, Y =  
H,  
alkyl, alkenyl, acyl, carbamoyl, aryl, R4 = H, alkyl, alkenyl,  
cycloalkyl,  
aryl, acyl, heterocyclyl, R5 = H, alkyl, alkenyl, cycloalkyl, aryl,  
heterocyclyl, C(SR7):NR8, C(NR9R10):Z, CR11:Z, R7 = alkyl or aryl, R8 =  
H,  
cycloalkyl, alkyl, R9 = H or alkyl, R10 = H, alkyl, OH, NH2, Ph, alkenyl,  
cycloalkyl, aryl, heterocyclyl, N:CHPhe, Phe = aryl, R9 and R10 together  
with nitrogen form a heterocyclyl, Z = O, S, NR13, R13 = H, alkyl or  
cycloalkyl, R11 = H, alkyl, aryl, cycloalkyl, or heterocyclyl, R4 and R5  
together with nitrogen form a heterocyclyl, R6 = heterocyclyl, Ac = Ac1,  
COCZ1:CZ2Z3, COCZ1:BDZ4, B = N, CH, Z1 = aryl, cycloalkyl, 1,4-hexadienyl  
or heterocyclyl, Z2 = H, alkyl, CH2CO2Z5, Z5 = H, alkyl, cycloalkyl, Z3 =  
H, alkyl, Z4 = H or org. radical, D = O or CH2), were prepd. thereof for  
use as pharmaceuticals, i.e. as antibacterial agents. Thus, II was  
prepd.  
via condensation of formylcephemcarboxylic acid deriv. III in 4% aq. MeCN  
with guanidine IV in 1-2 N HCl. II has an MHK of 0.01 .mu.g/mL vs.  
Streptococcus pneumoniae (strain ATCC 49619) compared to 0.02 .mu.g/mL  
for  
ceftriaxone.

L3 ANSWER 56 OF 148 REGISTRY COPYRIGHT 2000 ACS  
RN 184942-65-2 REGISTRY  
CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,  
7-[[[(2-amino-4-thiazolyl)(hydroxyimino)acetyl]amino]-3-[[[(imino-1-  
piperazinylmethyl)methylhydrazono]methyl]-8-oxo-, trihydrochloride,  
[6R-[6.alpha.,7.beta.(Z)]]- (9CI) (CA INDEX NAME)  
FS STEREOSEARCH  
MF C19 H24 N10 O5 S2 . 3 Cl H  
SR CA  
LC STN Files: CA, CAPLUS

Absolute stereochemistry.  
Double bond geometry as described by E or Z.



● 3 HCl

1 REFERENCES IN FILE CA (1967 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 126:47035 Antibacterial cephalosporins. Ascher, Gerd; Ludescher, Johannes (Biochemie Gesellschaft Mbh, Austria; Ascher, Gerd; Ludescher, Johannes). PCT Int. Appl. WO 9635692 A1 19961114, 124 pp.  
DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, NL, PT, SE. (English). CODEN: PIXXD2. APPLICATION: WO 1996-EP2023 19960510. PRIORITY: AT 1995-794 19950511; AT 1995-992 19950612; AT 1996-698 19960417; AT 1996-733 19960423.

GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB Compds. of formula I (R1 = H or ester moiety, R2 = OY, NR4R5, N:R6, Y = H,

alkyl, alkenyl, acyl, carbamoyl, aryl, R4 = H, alkyl, alkenyl, cycloalkyl,

aryl, acyl, heterocyclyl, R5 = H, alkyl, alkenyl, cycloalkyl, aryl, heterocyclyl, C(SR7):NR8, C(NR9R10):Z, CR11:Z, R7 = alkyl or aryl, R8 =

H,

cycloalkyl, alkyl, R9 = H or alkyl, R10 = H, alkyl, OH, NH2, Ph, alkenyl, cycloalkyl, aryl, heterocyclyl, N:CHPhe, Phe = aryl, R9 and R10 together with nitrogen form a heterocyclyl, Z = O, S, NR13, R13 = H, alkyl or cycloalkyl, R11 = H, alkyl, aryl, cycloalkyl, or heterocyclyl, R4 and R5 together with nitrogen form a heterocyclyl, R6 = heterocyclyl, Ac = Ac1, COCZ1:BDZ4, B = N, CH, Z1 = aryl, cycloalkyl, 1,4-hexadienyl

Prepared by M. Hale 308-4258

Page 147

or heterocyclyl, Z2 = H, alkyl, CH2CO2Z5, Z5 = H, alkyl, cycloalkyl, Z3 = H, alkyl, Z4 = H or org. radical, D = O or CH2), were prepd. thereof for use as pharmaceuticals, i.e. as antibacterial agents. Thus, II was prepd.

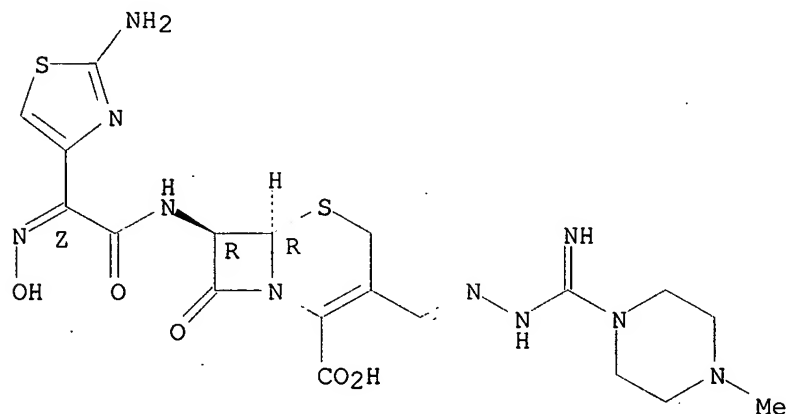
via condensation of formylcephemcarboxylic acid deriv. III in 4% aq. MeCN with guanidine IV in 1-2 N HCl. II has an MHK of 0.01 .mu.g/mL vs. Streptococcus pneumoniae (strain ATCC 49619) compared to 0.02 .mu.g/mL for ceftriaxone.

L3 ANSWER 57 OF 148 REGISTRY COPYRIGHT 2000 ACS  
 RN 184942-59-4 REGISTRY  
 CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,

7-[[ (2-amino-4-thiazolyl) (hydroxyimino) acetyl] amino]-3-[[[imino(4-methyl-1-piperazinyl)methyl]hydrazono]methyl]-8-oxo-, trihydrochloride, [6R-[6.alpha.,7.beta.(Z)]]- (9CI) (CA INDEX NAME)

FS STEREOSEARCH  
 MF C19 H24 N10 O5 S2 . 3 Cl H  
 SR CA  
 LC STN Files: CA, CAPLUS

Absolute stereochemistry.  
 Double bond geometry as described by E or Z.



● 3 HCl

1 REFERENCES IN FILE CA (1967 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 126:47035 Antibacterial cephalosporins. Ascher, Gerd; Ludescher, Johannes (Biochemie Gesellschaft Mbh, Austria; Ascher, Gerd; Ludescher, Johannes). PCT Int. Appl. WO 9635692 A1 19961114, 124 pp.  
 DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ,

Prepared by M. Hale 308-4258

Page 148

BERCH  
381750

DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, NL, PT, SE. (English). CODEN: PIXXD2. APPLICATION: WO 1996-EP2023 19960510. PRIORITY: AT 1995-794 19950511; AT 1995-992 19950612; AT 1996-698 19960417; AT 1996-733 19960423.

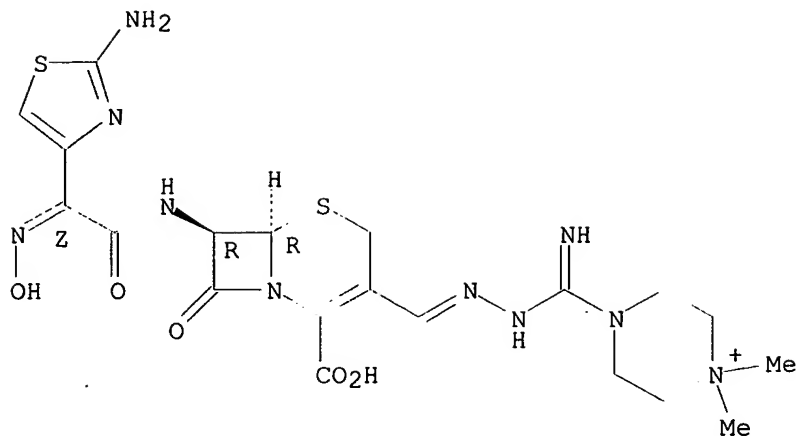
GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB Compds. of formula I (R1 = H or ester moiety, R2 = OY, NR4R5, N:R6, Y = H, alkyl, alkenyl, acyl, carbamoyl, aryl, R4 = H, alkyl, alkenyl, cycloalkyl, aryl, acyl, heterocyclyl, R5 = H, alkyl, alkenyl, cycloalkyl, aryl, heterocyclyl, C(SR7):NR8, C(NR9R10):Z, CR11:Z, R7 = alkyl or aryl, R8 = H, cycloalkyl, alkyl, R9 = H or alkyl, R10 = H, alkyl, OH, NH2, Ph, alkenyl, cycloalkyl, aryl, heterocyclyl, N:CHPhe, Phe = aryl, R9 and R10 together with nitrogen form a heterocyclyl, Z = O, S, NR13, R13 = H, alkyl or cycloalkyl, R11 = H, alkyl, aryl, cycloalkyl, or heterocyclyl, R4 and R5 together with nitrogen form a heterocyclyl, R6 = heterocyclyl, Ac = Ac1, COCZ1:CZ2Z3, COCZ1:BDZ4, B = N, CH, Z1 = aryl, cycloalkyl, 1,4-hexadienyl or heterocyclyl, Z2 = H, alkyl, CH2CO2Z5, Z5 = H, alkyl, cycloalkyl, Z3 = H, alkyl, Z4 = H or org. radical, D = O or CH2), were prepd. thereof for use as pharmaceuticals, i.e. as antibacterial agents. Thus, II was prepd. via condensation of formylcephemcarboxylic acid deriv. III in 4% aq. MeCN with guanidine IV in 1-2 N HCl. II has an MHK of 0.01 .mu.g/mL vs. Streptococcus pneumoniae (strain ATCC 49619) compared to 0.02 .mu.g/mL for ceftriaxone.

L3 ANSWER 58 OF 148 REGISTRY COPYRIGHT 2000 ACS  
RN 184942-58-3 REGISTRY  
CN Piperazinium,  
4-[[[7-[[[(2-amino-4-thiazolyl)(hydroxyimino)acetyl]amino]-2-carboxy-8-oxo-5-thia-1-azabicyclo[4.2.0]oct-2-en-3-yl]methylene]hydrazino]iminomethyl]-1,1-dimethyl-, chloride, dihydrochloride, [6R-[6.alpha.,7.beta.(Z)]]- (9CI) (CA INDEX NAME)  
FS STEREOSEARCH  
MF C20 H27 N10 O5 S2 . 2 Cl H . Cl  
SR CA  
LC STN Files: CA, CAPLUS

Absolute stereochemistry.  
Double bond geometry as described by E or Z.



● 2 HCl

1 REFERENCES IN FILE CA (1967 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 126:47035 Antibacterial cephalosporins. Ascher, Gerd; Ludescher, Johannes (Biochemie Gesellschaft Mbh, Austria; Ascher, Gerd; Ludescher, Johannes). PCT Int. Appl. WO 9635692 A1 19961114, 124 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, NL, PT, SE. (English). CODEN: PIXXD2. APPLICATION: WO 1996-EP2023 19960510. PRIORITY: AT 1995-794 19950511; AT 1995-992 19950612; AT 1996-698 19960417; AT 1996-733 19960423.

GI

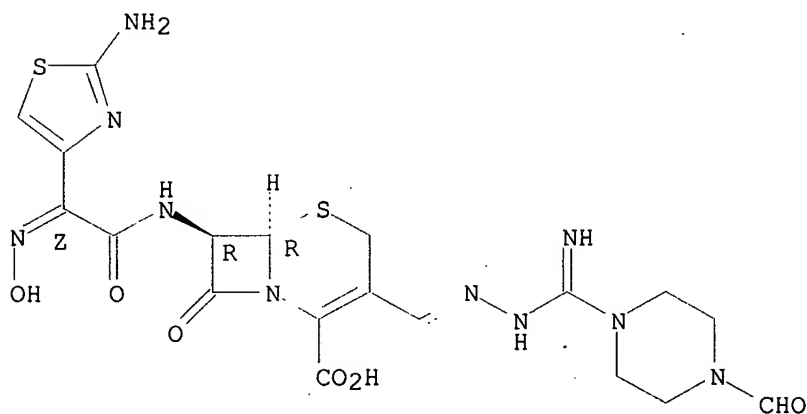
\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB Compds. of formula I (R1 = H or ester moiety, R2 = OY, NR4R5, N:R6, Y = H, alkyl, alkenyl, acyl, carbamoyl, aryl, R4 = H, alkyl, alkenyl, cycloalkyl, prepared by M. Hale 308-4258

aryl, acyl, heterocyclyl, R5 = H, alkyl, alkenyl, cycloalkyl, aryl, heterocyclyl, C(SR7):NR8, C(NR9R10):Z, CR11:Z, R7 = alkyl or aryl, R8 = H, cycloalkyl, alkyl, R9 = H or alkyl, R10 = H, alkyl, OH, NH2, Ph, alkenyl, cycloalkyl, aryl, heterocyclyl, N:CHPhe, Phe = aryl, R9 and R10 together with nitrogen form a heterocyclyl, Z = O, S, NR13, R13 = H, alkyl or cycloalkyl, R11 = H, alkyl, aryl, cycloalkyl, or heterocyclyl, R4 and R5 together with nitrogen form a heterocyclyl, R6 = heterocyclyl, Ac = Ac1, COCZ1:CZ2Z3, COCZ1:BDZ4, B = N, CH, Z1 = aryl, cycloalkyl, 1,4-hexadienyl or heterocyclyl, Z2 = H, alkyl, CH2CO2Z5, Z5 = H, alkyl, cycloalkyl, Z3 = H, alkyl, Z4 = H or org. radical, D = O or CH2), were prepd. thereof for use as pharmaceuticals, i.e. as antibacterial agents. Thus, II was prepd. via condensation of formylcephemcarboxylic acid deriv. III in 4% aq. MeCN with guanidine IV in 1-2 N HCl. II has an MHK of 0.01 .mu.g/mL vs. Streptococcus pneumoniae (strain ATCC 49619) compared to 0.02 .mu.g/mL for ceftriaxone.

L3 ANSWER 59 OF 148 REGISTRY COPYRIGHT 2000 ACS  
 RN 184942-52-7 REGISTRY  
 CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[[(2-amino-4-thiazolyl)(hydroxyimino)acetyl]amino]-3-[[[(4-formyl-1-piperazinyl)iminomethyl]hydrazono]methyl]-8-oxo-, dihydrochloride, [6R-[6.alpha.,7.beta.(Z)]]- (9CI) (CA INDEX NAME)  
 FS STEREOSEARCH  
 MF C19 H22 N10 O6 S2 . 2 Cl H  
 SR CA  
 LC STN Files: CA, CAPLUS

Absolute stereochemistry.  
 Double bond geometry as described by E or Z.



● 2 HCl

1 REFERENCES IN FILE CA (1967 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 126:47035 Antibacterial cephalosporins. Ascher, Gerd;  
Ludescher, Johannes (Biochemie Gesellschaft MbH, Austria; Ascher, Gerd;  
Ludescher, Johannes). PCT Int. Appl. WO 9635692 A1 19961114, 124 pp.  
DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN,  
CZ,  
DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS,  
LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG,  
SI; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FI, FR, GA, GB,  
GR, IE, IT, LU, MC, NL, PT, SE. (English). CODEN: PIXXD2. APPLICATION:  
WO 1996-EP2023 19960510. PRIORITY: AT 1995-794 19950511; AT 1995-992  
19950612; AT 1996-698 19960417; AT 1996-733 19960423.

GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB Compds. of formula I (R1 = H or ester moiety, R2 = OY, NR4R5, N:R6, Y =  
H,  
alkyl, alkenyl, acyl, carbamoyl, aryl, R4 = H, alkyl, alkenyl,  
cycloalkyl,  
aryl, acyl, heterocyclyl, R5 = H, alkyl, alkenyl, cycloalkyl, aryl,  
heterocyclyl, C(SR7):NR8, C(NR9R10):Z, CR11:Z, R7 = alkyl or aryl, R8 =  
H,  
cycloalkyl, alkyl, R9 = H or alkyl, R10 = H, alkyl, OH, NH2, Ph, alkenyl,  
cycloalkyl, aryl, heterocyclyl, N:CHPhe, Phe = aryl, R9 and R10 together  
with nitrogen form a heterocyclyl, Z = O, S, NR13, R13 = H, alkyl or  
cycloalkyl, R11 = H, alkyl, aryl, cycloalkyl, or heterocyclyl, R4 and R5  
together with nitrogen form a heterocyclyl, R6 = heterocyclyl, Ac = Acl,  
COCZ1:CZ2Z3, COCZ1:BDZ4, B = N, CH, Z1 = aryl, cycloalkyl, 1,4-hexadienyl  
or heterocyclyl, Z2 = H, alkyl, CH2CO2Z5, Z5 = H, alkyl, cycloalkyl, Z3 =  
H, alkyl, Z4 = H or org. radical, D = O or CH2), were prepd. thereof for  
use as pharmaceuticals, i.e. as antibacterial agents. Thus, II was  
prepd.  
via condensation of formylcephemcarboxylic acid deriv. III in 4% aq. MeCN  
with guanidine IV in 1-2 N HCl. II has an MHK of 0.01 .mu.g/mL vs.  
Streptococcus pneumoniae (strain ATCC 49619) compared to 0.02 .mu.g/mL  
for  
ceftriaxone.

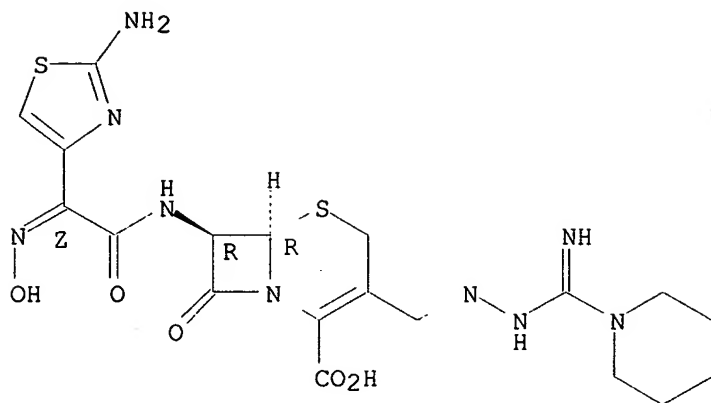
L3 ANSWER 60 OF 148 REGISTRY COPYRIGHT 2000 ACS  
RN 184942-51-6 REGISTRY  
CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,  
7-[[[(2-amino-4-thiazolyl)(hydroxyimino)acetyl]amino]-3-[[[imino-1-  
piperidinylmethyl)hydrazono]methyl]-8-oxo-, dihydrochloride,  
[6R-[6.alpha.,7.beta.(Z)]]- (9CI) (CA INDEX NAME)  
FS STEREOSEARCH  
MF C19 H23 N9 O5 S2 . 2 C1 H  
SR CA  
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

Prepared by M. Hale 308-4258

Page 152

Double bond geometry as described by E or Z.



● 2 HCl

1 REFERENCES IN FILE CA (1967 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 126:47035 Antibacterial cephalosporins. Ascher, Gerd;  
Ludescher, Johannes (Biochemie Gesellschaft Mbh, Austria; Ascher, Gerd;  
Ludescher, Johannes). PCT Int. Appl. WO 9635692 A1 19961114, 124 pp.  
DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN,  
CZ,  
DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS,  
LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG,  
SI; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FI, FR, GA, GB,  
GR, IE, IT, LU, MC, NL, PT, SE. (English). CODEN: PIXXD2. APPLICATION:  
WO 1996-EP2023 19960510. PRIORITY: AT 1995-794 19950511; AT 1995-992  
19950612; AT 1996-698 19960417; AT 1996-733 19960423.

GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB Compds. of formula I (R1 = H or ester moiety, R2 = OY, NR4R5, N:R6, Y =  
H,  
alkyl, alkenyl, acyl, carbamoyl, aryl, R4 = H, alkyl, alkenyl,  
cycloalkyl,  
aryl, acyl, heterocyclyl, R5 = H, alkyl, alkenyl, cycloalkyl, aryl,  
heterocyclyl, C(SR7):NR8, C(NR9R10):Z, CR11:Z, R7 = alkyl or aryl, R8 =  
H,  
cycloalkyl, alkyl, R9 = H or alkyl, R10 = H, alkyl, OH, NH2, Ph, alkenyl,  
cycloalkyl, aryl, heterocyclyl, N:CHPhe, Phe = aryl, R9 and R10 together  
with nitrogen form a heterocyclyl, Z = O, S, NR13, R13 = H, alkyl or  
Prepared by M. Hale 308-4258

Page 153

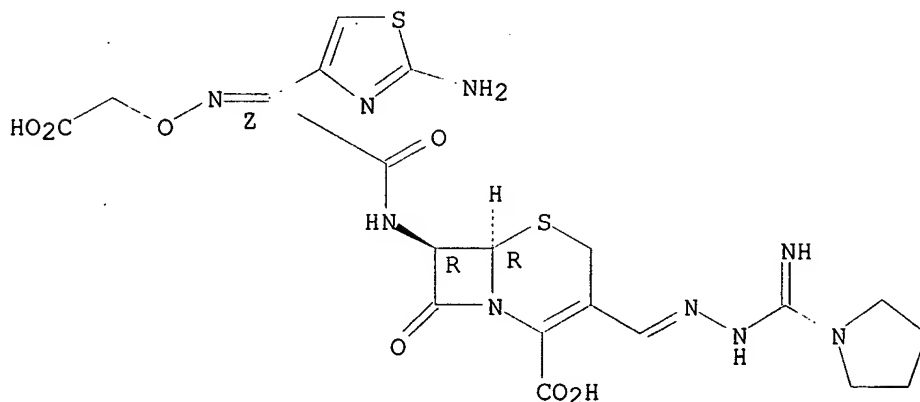
cycloalkyl, R11 = H, alkyl, aryl, cycloalkyl, or heterocyclyl, R4 and R5 together with nitrogen form a heterocyclyl, R6 = heterocyclyl, Ac = Ac1, COCZ1:CZ2Z3, COCZ1:BDZ4, B = N, CH, Z1 = aryl, cycloalkyl, 1,4-hexadienyl or heterocyclyl, Z2 = H, alkyl, CH2CO2Z5, Z5 = H, alkyl, cycloalkyl, Z3 = H, alkyl, Z4 = H or org. radical, D = O or CH2); were prepd. thereof for use as pharmaceuticals, i.e. as antibacterial agents. Thus, II was prepd. via condensation of formylcephemcarboxylic acid deriv. III in 4% aq. MeCN with guanidine IV in 1-2 N HCl. II has an MHK of 0.01 .mu.g/mL vs. Streptococcus pneumoniae (strain ATCC 49619) compared to 0.02 .mu.g/mL for ceftriaxone.

L3 ANSWER 61 OF 148 REGISTRY COPYRIGHT 2000 ACS  
 RN 184942-48-1 REGISTRY  
 CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,

7-[[[(2-amino-4-thiazolyl)[(carboxymethoxy)imino]acetyl]amino]-3-[[[(imino-1-pyrrolidinylmethyl)hydrazono]methyl]-8-oxo-, dihydrochloride,  
 [6R-[6.alpha.,7.beta.(Z)]]- (9CI) (CA INDEX NAME)

FS STEREOSEARCH  
 MF C20 H23 N9 O7 S2 . 2 Cl H  
 SR CA  
 LC STN Files: CA, CAPLUS

Absolute stereochemistry.  
 Double bond geometry as described by E or Z.



● 2 HCl

1 REFERENCES IN FILE CA (1967 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 126:47035 Antibacterial cephalosporins. Ascher, Gerd;  
 Ludescher, Johannes (Biochemie Gesellschaft Mbb, Austria; Ascher, Gerd;  
 Prepared by M. Hale 308-4258 Page 154

Ludescher, Johannes). PCT Int. Appl. WO 9635692 A1 19961114, 124 pp.  
 DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN,  
 CZ,  
 DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS,  
 LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG,  
 SI; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FI, FR, GA, GB,  
 GR, IE, IT, LU, MC, NL, PT, SE. (English). CODEN: PIXXD2. APPLICATION:  
 WO 1996-EP2023 19960510. PRIORITY: AT 1995-794 19950511; AT 1995-992  
 19950612; AT 1996-698 19960417; AT 1996-733 19960423.  
 GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

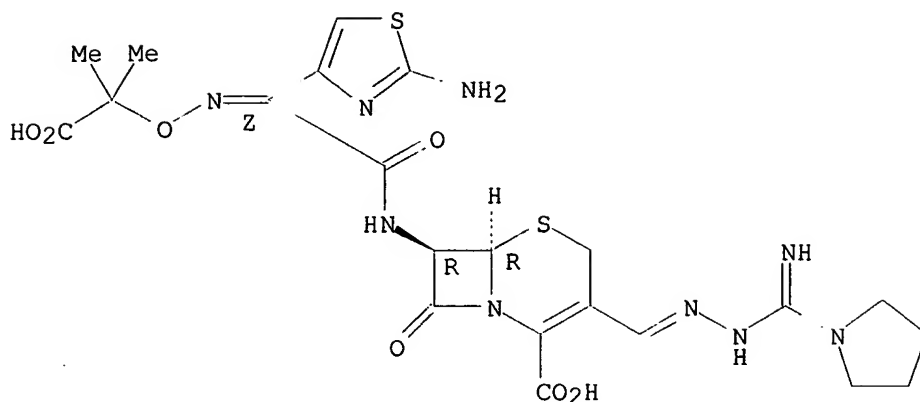
AB Compds. of formula I (R1 = H or ester moiety, R2 = OY, NR4R5, N:R6, Y =  
 H,  
 alkyl, alkenyl, acyl, carbamoyl, aryl, R4 = H, alkyl, alkenyl,  
 cycloalkyl,  
 aryl, acyl, heterocyclyl, R5 = H, alkyl, alkenyl, cycloalkyl, aryl,  
 heterocyclyl, C(SR7):NR8, C(NR9R10):Z, CR11:Z, R7 = alkyl or aryl, R8 =  
 H,  
 cycloalkyl, alkyl, R9 = H or alkyl, R10 = H, alkyl, OH, NH2, Ph, alkenyl,  
 cycloalkyl, aryl, heterocyclyl, N:CHPhe, Phe = aryl, R9 and R10 together  
 with nitrogen form a heterocyclyl, Z = O, S, NR13, R13 = H, alkyl or  
 cycloalkyl, R11 = H, alkyl, aryl, cycloalkyl, or heterocyclyl, R4 and R5  
 together with nitrogen form a heterocyclyl, R6 = heterocyclyl, Ac = Ac1,  
 COCZ1:CZ2Z3, COCZ1:BDZ4, B = N, CH, Z1 = aryl, cycloalkyl, 1,4-hexadienyl  
 or heterocyclyl, Z2 = H, alkyl, CH2COZ25, Z5 = H, alkyl, cycloalkyl, Z3 =  
 H, alkyl, Z4 = H or org. radical, D = O or CH2), were prepd. thereof for  
 use as pharmaceuticals, i.e. as antibacterial agents. Thus, II was  
 prepd.  
 via condensation of formylcephemcarboxylic acid deriv. III in 4% aq. MeCN  
 with guanidine IV in 1-2 N HCl. II has an MHK of 0.01 .mu.g/mL vs.  
 Streptococcus pneumoniae (strain ATCC 49619) compared to 0.02 .mu.g/mL  
 for  
 ceftriaxone.

L3 ANSWER 62 OF 148 REGISTRY COPYRIGHT 2000 ACS  
 RN 184942-44-7 REGISTRY  
 CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,

7-[[[(2-amino-4-thiazolyl)[(1-carboxy-1-methylethoxy)imino]acetyl]amino]-3-  
 [[(imino-1-pyrrolidinylmethyl)hydrazono]methyl]-8-oxo-, dihydrochloride,  
 [6R-[6.alpha.,7.beta.(Z)]]- (9CI) (CA INDEX NAME)

FS STEREOSEARCH  
 MF C22 H27 N9 O7 S2 . 2 Cl H  
 SR CA  
 LC STN Files: CA, CAPLUS

Absolute stereochemistry.  
 Double bond geometry as described by E or Z.



● 2 HCl

1 REFERENCES IN FILE CA (1967 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 126:47035 Antibacterial cephalosporins. Ascher, Gerd;  
Ludescher, Johannes (Biochemie Gesellschaft Mbh, Austria; Ascher, Gerd;  
Ludescher, Johannes). PCT Int. Appl. WO 9635692 A1 19961114, 124 pp.  
DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN,  
CZ,  
DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS,  
LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG,  
SI; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FI, FR, GA, GB,  
GR, IE, IT, LU, MC, NL, PT, SE. (English). CODEN: PIXXD2. APPLICATION:  
WO 1996-EP2023 19960510. PRIORITY: AT 1995-794 19950511; AT 1995-992  
19950612; AT 1996-698 19960417; AT 1996-733 19960423.

GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB Compds. of formula I (R1 = H or ester moiety, R2 = OY, NR4R5, N:R6, Y =  
H,  
alkyl, alkenyl, acyl, carbamoyl, aryl, R4 = H, alkyl, alkenyl,  
cycloalkyl,  
aryl, acyl, heterocyclyl, R5 = H, alkyl, alkenyl, cycloalkyl, aryl,  
heterocyclyl, C(SR7):NR8, C(NR9R10):Z, CR11:Z, R7 = alkyl or aryl, R8 =  
H,  
cycloalkyl, alkyl, R9 = H or alkyl, R10 = H, alkyl, OH, NH2, Ph, alkenyl,  
cycloalkyl, aryl, heterocyclyl, N:CHPhe, Phe = aryl, R9 and R10 together  
with nitrogen form a heterocyclyl, Z = O, S, NR13, R13 = H, alkyl or  
cycloalkyl, R11 = H, alkyl, aryl, cycloalkyl, or heterocyclyl, R4 and R5  
together with nitrogen form a heterocyclyl, R6 = heterocyclyl, Ac = Acl,  
COCZ1:CZ2Z3, COCZ1:BDZ4, B = N, CH, Z1 = aryl, cycloalkyl, 1,4-hexadienyl  
or heterocyclyl, Z2 = H, alkyl, CH2CO2Z5, Z5 = H, alkyl, cycloalkyl, Z3 =  
Prepared by M. Hale 308-4258 Page 156

H, alkyl, Z4 = H or org. radical, D = O or CH2), were prepd. thereof for use as pharmaceuticals, i.e. as antibacterial agents. Thus, II was prepd.

via condensation of formylcephemcarboxylic acid deriv. III in 4% aq. MeCN with guanidine IV in 1-2 N HCl. II has an MHK of 0.01 .mu.g/mL vs. Streptococcus pneumoniae (strain ATCC 49619) compared to 0.02 .mu.g/mL for ceftriaxone.

L3 ANSWER 63 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 184942-33-4 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[[(2Z)-(2-amino-4-thiazolyl)(hydroxyimino)acetyl]amino]-3-[[[(imino-1-piperazinylmethyl)hydrazono]methyl]-8-oxo-, trihydrochloride, (6R,7R)-(9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[[(2-amino-4-thiazolyl)(hydroxyimino)acetyl]amino]-3-[[[(imino-1-piperazinylmethyl)hydrazono]methyl]-8-oxo-, trihydrochloride, [6R-[6.alpha.,7.beta.(Z)]]-

FS STEREOSEARCH

MF C18 H22 N10 O5 S2 . 3 Cl H

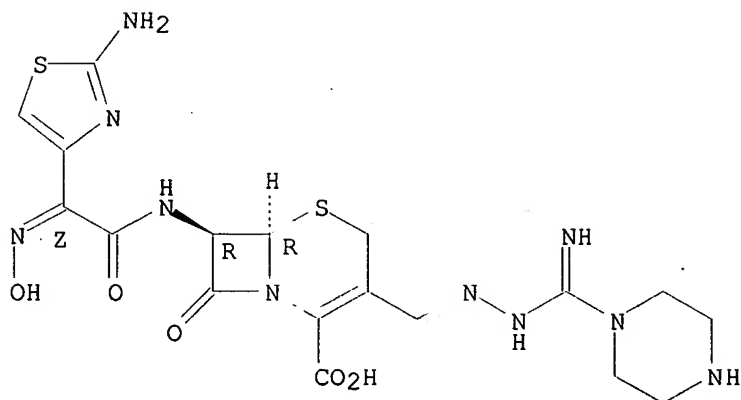
SR CA

LC STN Files: CA, CAPLUS

CRN (184943-49-5)

Absolute stereochemistry.

Double bond geometry as described by E or Z.



● 3 HCl

2 REFERENCES IN FILE CA (1967 TO DATE)

2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 129:275783 synthesis of antibacterial substituted  
Prepared by M. Hale 308-4258

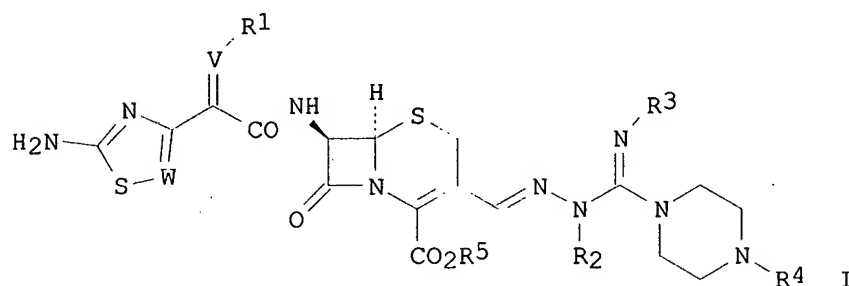
Page 157

acylamino(methylhydrazono)methylcephalosporins and intermediates.

Ascher,

Gerd; Wieser, Josef; Schranz, Michael; Ludescher, Johannes; Hildebrandt, Johannes (Biochemie G.m.b.H., Austria). PCT Int. Appl. WO 9843981 A1 19981008, 46 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1998-EP1890 19980401. PRIORITY: AT 1997-546 19970401; AT 1997-547 19970401; AT 1997-548 19970401.

GI



AB Synthesis of cephalosporins (I) [R1 = H, acyl, carboxyl, alkyl; R2, R3 = H, cycloalkyl, alkyl, alkenyl, alkynyl; R4 = H, C(=Z)R6; R6 = NH2, NHNH2, aminoalkylamino, alkoxy, aryl, cycloaryl, aryloxy, heterocyclyl, alkyl, alkenyl, alkynyl; R5 = H, ester moiety; W = CH, N; V = CH, NO; Z = O, S, NR7; R7 = R2] for use as antibacterials is described. Thus, I (R1 = OCH2F; R2 = Me; R3, R4, R5 = H; W, V = N) is prepd. in 3 steps by acylation of 7-amino-3-formyl-3-cephem-4-carboxylic acid with (5-amino-1,2,4-thiadiazol-3-yl)-(Z)-2-fluoromethoxyiminoacetic acid, reaction of this intermediate with 1-(1-methylhydrazino)iminomethylpiperazine dihydrochloride followed by chromatog.

REFERENCE 2: 126:47035 Antibacterial cephalosporins. Ascher, Gerd; Ludescher, Johannes (Biochemie Gesellschaft MbH, Austria; Ascher, Gerd; Ludescher, Johannes). PCT Int. Appl. WO 9635692 A1 19961114, 124 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN,

CZ,

DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, NL, PT, SE. (English). CODEN: PIXXD2. APPLICATION: WO 1996-EP2023 19960510. PRIORITY: AT 1995-794 19950511; AT 1995-992 19950612; AT 1996-698 19960417; AT 1996-733 19960423.

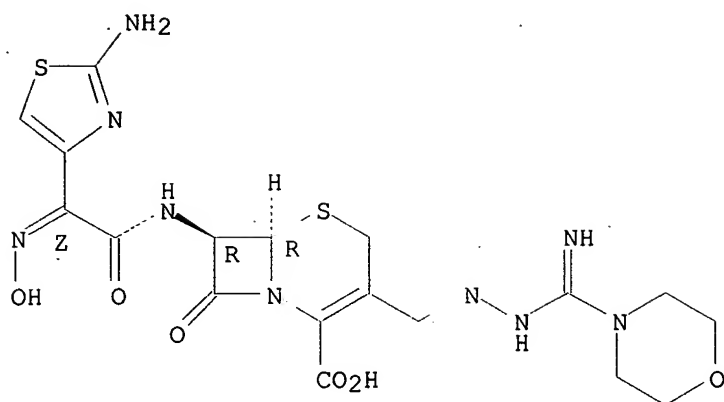
GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB Compds. of formula I (R1 = H or ester moiety, R2 = OY, NR4R5, N:R6, Y = H, alkyl, alkenyl, acyl, carbamoyl, aryl, R4 = H, alkyl, alkenyl, cycloalkyl, aryl, acyl, heterocyclyl, R5 = H, alkyl, alkenyl, cycloalkyl, aryl, heterocyclyl, C(SR7):NR8, C(NR9R10):Z, CR11:Z, R7 = alkyl or aryl, R8 = H, cycloalkyl, alkyl, R9 = H or alkyl, R10 = H, alkyl, OH, NH2, Ph, alkenyl, cycloalkyl, aryl, heterocyclyl, N:CHPhe, Phe = aryl, R9 and R10 together with nitrogen form a heterocyclyl, Z = O, S, NR13, R13 = H, alkyl or cycloalkyl, R11 = H, alkyl, aryl, cycloalkyl, or heterocyclyl, R4 and R5 together with nitrogen form a heterocyclyl, R6 = heterocyclyl, Ac = Ac1, COCZ1:CZ2Z3, COCZ1:BDZ4, B = N, CH, Z1 = aryl, cycloalkyl, 1,4-hexadienyl or heterocyclyl, Z2 = H, alkyl, CH2CO2Z5, Z5 = H, alkyl, cycloalkyl, Z3 = H, alkyl, Z4 = H or org. radical, D = O or CH2), were prepd. thereof for use as pharmaceuticals, i.e. as antibacterial agents. Thus, II was prepd. via condensation of formylcephemcarboxylic acid deriv. III in 4% aq. MeCN with guanidine IV in 1-2 N HCl. II has an MHK of 0.01 .mu.g/mL vs. Streptococcus pneumoniae (strain ATCC 49619) compared to 0.02 .mu.g/mL for ceftriaxone.

L3 ANSWER 64 OF 148 REGISTRY COPYRIGHT 2000 ACS  
RN 184942-18-5 REGISTRY  
CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,  
7-[[[(2-amino-4-thiazolyl)(hydroxyimino)acetyl]amino]-3-[[[imino-4-morpholinylmethyl)hydrazono]methyl]-8-oxo-, dihydrochloride,  
[6R-[6.alpha.,7.beta.(Z)]]- (9CI) (CA INDEX NAME)  
FS STEREOSEARCH  
MF C18 H21 N9 O6 S2 . 2 Cl H  
SR CA  
LC STN Files: CA, CAPLUS

Absolute stereochemistry.  
Double bond geometry as described by E or Z.



● 2 HCl

1 REFERENCES IN FILE CA (1967 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 126:47035 Antibacterial cephalosporins. Ascher, Gerd; Ludescher, Johannes (Biochemie Gesellschaft Mbh, Austria; Ascher, Gerd; Ludescher, Johannes). PCT Int. Appl. WO 9635692 A1 19961114, 124 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, NL, PT, SE. (English). CODEN: PIXXD2. APPLICATION: WO 1996-EP2023 19960510. PRIORITY: AT 1995-794 19950511; AT 1995-992 19950612; AT 1996-698 19960417; AT 1996-733 19960423.

GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB Compds. of formula I (R1 = H or ester moiety, R2 = OY, NR4R5, N:R6, Y = H, alkyl, alkenyl, acyl, carbamoyl, aryl, R4 = H, alkyl, alkenyl, cycloalkyl, aryl, acyl, heterocyclyl, R5 = H, alkyl, alkenyl, cycloalkyl, aryl, heterocyclyl, C(SR7):NR8, C(NR9R10):Z, CR11:Z, R7 = alkyl or aryl, R8 = H, cycloalkyl, alkyl, R9 = H or alkyl, R10 = H, alkyl, OH, NH2, Ph, alkenyl, cycloalkyl, aryl, heterocyclyl, N:CHPhe, Phe = aryl, R9 and R10 together with nitrogen form a heterocyclyl, Z = O, S, NR13, R13 = H, alkyl or cycloalkyl, R11 = H, alkyl, aryl, cycloalkyl, or heterocyclyl, R4 and R5 together with nitrogen form a heterocyclyl, R6 = heterocyclyl, Ac = Acl, COCZ1:CZ2Z3, COCZ1:BDZ4, B = N, CH, Z1 = aryl, cycloalkyl, 1,4-hexadienyl

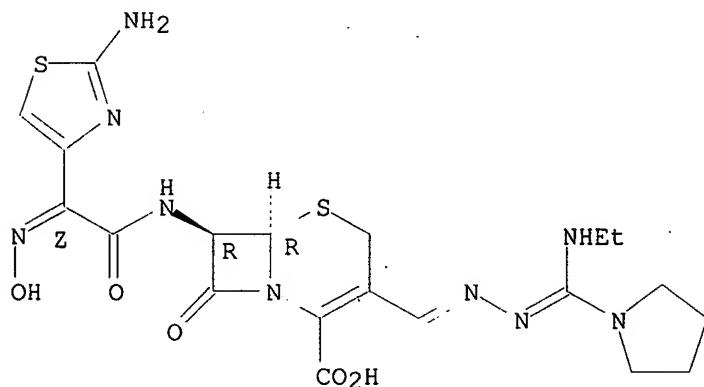
Prepared by M. Hale 308-4258

Page 160

or heterocyclyl, Z2 = H, alkyl, CH2CO2Z5, Z5 = H, alkyl, cycloalkyl, Z3 = H, alkyl, Z4 = H or org. radical, D = O or CH2), were prepd. thereof for use as pharmaceuticals, i.e. as antibacterial agents. Thus, II was prepd. via condensation of formylcephemcarboxylic acid deriv. III in 4% aq. MeCN with guanidine IV in 1-2 N HCl. II has an MHK of 0.01 .mu.g/mL vs. Streptococcus pneumoniae (strain ATCC 49619) compared to 0.02 .mu.g/mL for ceftriaxone.

L3 ANSWER 65 OF 148 REGISTRY COPYRIGHT 2000 ACS  
 RN 184942-10-7 REGISTRY  
 CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[[(2-amino-4-thiazolyl)(hydroxyimino)acetyl]amino]-3-[[[(ethylamino)-1-pyrrolidinylmethylene]hydrazono]methyl]-8-oxo-, dihydrochloride, [6R-[6.alpha.,7.beta.(Z)]]- (9CI) (CA INDEX NAME)  
 FS STEREOSEARCH  
 MF C20 H25 N9 O5 S2 . 2 Cl H  
 SR CA  
 LC STN Files: CA, CAPLUS

Absolute stereochemistry.  
 Double bond geometry as described by E or Z.



● 2 HCl

1 REFERENCES IN FILE CA (1967 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 126:47035 Antibacterial cephalosporins. Ascher, Gerd; Ludescher, Johannes (Biochemie Gesellschaft Mbh, Austria; Ascher, Gerd; Ludescher, Johannes). PCT Int. Appl. WO 9635692 A1 19961114, 124 pp.  
 DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, SM, SN, SR, ST, SV, TH, TJ, TM, TR, TT, TZ, UA, UG, UZ, VC, VE, VJ, VN, YU, ZA, ZM, ZW.  
 Prepared by M. Hale 308-4258 Page 161

SI; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, NL, PT, SE. (English). CODEN: PIXXD2. APPLICATION: WO 1996-EP2023 19960510. PRIORITY: AT 1995-794 19950511; AT 1995-992 19950612; AT 1996-698 19960417; AT 1996-733 19960423.

GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB Compds. of formula I (R1 = H or ester moiety, R2 = OY, NR4R5, N:R6, Y = H,  
alkyl, alkenyl, acyl, carbamoyl, aryl, R4 = H, alkyl, alkenyl, cycloalkyl,  
aryl, acyl, heterocyclyl, R5 = H, alkyl, alkenyl, cycloalkyl, aryl, heterocyclyl, C(SR7):NR8, C(NR9R10):Z, CR11:Z, R7 = alkyl or aryl, R8 = H,  
cycloalkyl, alkyl, R9 = H or alkyl, R10 = H, alkyl, OH, NH2, Ph, alkenyl, cycloalkyl, aryl, heterocyclyl, N:CHPhe, Phe = aryl, R9 and R10 together with nitrogen form a heterocyclyl, Z = O, S, NR13, R13 = H, alkyl or cycloalkyl, R11 = H, alkyl, aryl, cycloalkyl, or heterocyclyl, R4 and R5 together with nitrogen form a heterocyclyl, R6 = heterocyclyl, Ac = Ac1, COCZ1:CZ2Z3, COCZ1:BDZ4, B = N, CH, Z1 = aryl, cycloalkyl, 1,4-hexadienyl or heterocyclyl, Z2 = H, alkyl, CH2CO2Z5, Z5 = H, alkyl, cycloalkyl, Z3 = H, alkyl, Z4 = H or org. radical, D = O or CH2), were prepd. thereof for use as pharmaceuticals, i.e. as antibacterial agents. Thus, II was prepd.  
via condensation of formylcephemcarboxylic acid deriv. III in 4% aq. MeCN with guanidine IV in 1-2 N HCl. II has an MHK of 0.01 .mu.g/mL vs. Streptococcus pneumoniae (strain ATCC 49619) compared to 0.02 .mu.g/mL for ceftriaxone.

L3 ANSWER 66 OF 148 REGISTRY COPYRIGHT 2000 ACS  
RN 184942-04-9 REGISTRY  
CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,  
7-[[[(2-amino-4-thiazolyl)(methoxyimino)acetyl]amino]-3-[[[(4-formyl-1-piperazinyl)iminomethyl]methylhydrazono]methyl]-8-oxo-, dihydrochloride, [6R-[6.alpha.,7.beta.(Z)]]- (9CI) (CA INDEX NAME)  
FS STEREOSEARCH  
MF C21 H26 N10 O6 S2 . 2 Cl H  
SR CA  
LC STN Files: CA, CAPLUS

Absolute stereochemistry.  
Double bond geometry as described by E or Z.



or heterocyclyl, Z2 = H, alkyl, CH2CO2Z5, Z5 = H, alkyl, cycloalkyl, Z3 = H, alkyl, Z4 = H or org. radical, D = O or CH2), were prepd. thereof for use as pharmaceuticals, i.e. as antibacterial agents. Thus, II was prepd.

via condensation of formylcephemcarboxylic acid deriv. III in 4% aq. MeCN with guanidine IV in 1-2 N HCl. II has an MHK of 0.01 .mu.g/mL vs. Streptococcus pneumoniae (strain ATCC 49619) compared to 0.02 .mu.g/mL for ceftriaxone.

L3 ANSWER 67 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 184942-03-8 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[[(2-amino-4-thiazolyl)(methoxyimino)acetyl]amino]-3-[[[(imino-1-piperazinylmethyl)methylhydrazono]methyl]-8-oxo-, trihydrochloride, [6R-[6.alpha.,7.beta.(Z)]]- (9CI) (CA INDEX NAME).

FS STEREOSEARCH

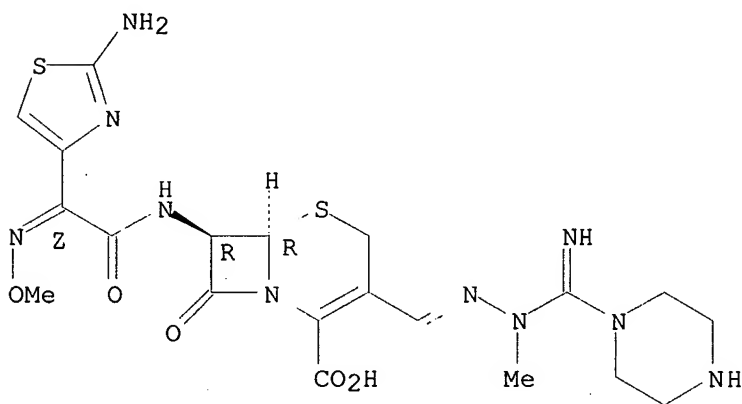
MF C20 H26 N10 O5 S2 . 3 Cl H

SR CA

LC STN Files: CA, CAPLUS

Absolute stereochemistry.

Double bond geometry as described by E or Z.



● 3 HCl

1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 126:47035 Antibacterial cephalosporins. Ascher, Gerd; Ludescher, Johannes (Biochemie Gesellschaft Mbh, Austria; Ascher, Gerd; Ludescher, Johannes). PCT Int. Appl. WO 9635692 A1 19961114, 124 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN,

CZ,

DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, Prepared by M. Hale 308-4258 Page 164

LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG,  
SI; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FI, FR, GA, GB,  
GR, IE, IT, LU, MC, NL, PT, SE. (English). CODEN: PIXXD2. APPLICATION:  
WO 1996-EP2023 19960510. PRIORITY: AT 1995-794 19950511; AT 1995-992  
19950612; AT 1996-698 19960417; AT 1996-733 19960423.

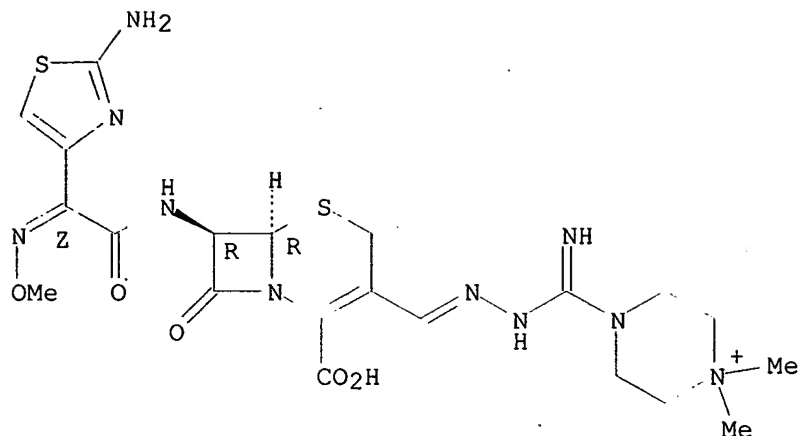
GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB Compds. of formula I (R1 = H or ester moiety, R2 = OY, NR4R5, N:R6, Y =  
H,  
alkyl, alkenyl, acyl, carbamoyl, aryl, R4 = H, alkyl, alkenyl,  
cycloalkyl,  
aryl, acyl, heterocyclyl, R5 = H, alkyl, alkenyl, cycloalkyl, aryl,  
heterocyclyl, C(SR7):NR8, C(NR9R10):Z, CR11:Z, R7 = alkyl or aryl, R8 =  
H,  
cycloalkyl, alkyl, R9 = H or alkyl, R10 = H, alkyl, OH, NH2, Ph, alkenyl,  
cycloalkyl, aryl, heterocyclyl, N:CHPhe, Phe = aryl, R9 and R10 together  
with nitrogen form a heterocyclyl, Z = O, S, NR13, R13 = H, alkyl or  
cycloalkyl, R11 = H, alkyl, aryl, cycloalkyl, or heterocyclyl, R4 and R5  
together with nitrogen form a heterocyclyl, R6 = heterocyclyl, Ac = Acl,  
COCZ1:CZ2Z3, COCZ1:BDZ4, B = N, CH, Z1 = aryl, cycloalkyl, 1,4-hexadienyl  
or heterocyclyl, Z2 = H, alkyl, CH2CO2Z5, Z5 = H, alkyl, cycloalkyl, Z3 =  
H, alkyl, Z4 = H or org. radical, D = O or CH2), were prepd. thereof for  
use as pharmaceuticals, i.e. as antibacterial agents. Thus, II was  
prepd.  
via condensation of formylcephemcarboxylic acid deriv. III in 4% aq. MeCN  
with guanidine IV in 1-2 N HCl. II has an MHK of 0.01 .mu.g/mL vs.  
Streptococcus pneumoniae (strain ATCC 49619) compared to 0.02 .mu.g/mL  
for  
ceftriaxone.

L3 ANSWER 68 OF 148 REGISTRY COPYRIGHT 2000 ACS  
RN 184941-99-9 REGISTRY  
CN Piperazinium,  
4-[[[7-[[[2-amino-4-thiazolyl](methoxyimino)acetyl]amino]-2-  
carboxy-8-oxo-5-thia-1-azabicyclo[4.2.0]oct-2-en-3-  
yl]methylene]hydrazino]iminomethyl]-1,1-dimethyl-, chloride,  
dihydrochloride, [6R-[6.alpha.,7.beta.(Z)]]- (9CI) (CA INDEX NAME)  
FS STEREOSEARCH  
MF C21 H29 N10 O5 S2 . 2 Cl H . Cl  
SR CA  
LC STN Files: CA, CAPLUS

Absolute stereochemistry.  
Double bond geometry as described by E or Z.



● Cl<sup>-</sup>

● 2 HCl

1 REFERENCES IN FILE CA (1967 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 126:47035 Antibacterial cephalosporins. Ascher, Gerd; Ludescher, Johannes (Biochemie Gesellschaft Mbh, Austria; Ascher, Gerd; Ludescher, Johannes). PCT Int. Appl. WO 9635692 A1 19961114, 124 pp.  
DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, NL, PT, SE. (English). CODEN: PIXXD2. APPLICATION: WO 1996-EP2023 19960510. PRIORITY: AT 1995-794 19950511; AT 1995-992 19950612; AT 1996-698 19960417; AT 1996-733 19960423.

GI

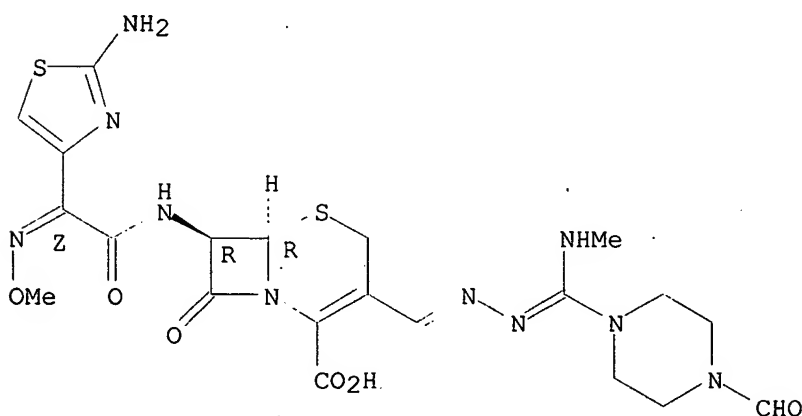
\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB Compds. of formula I (R1 = H or ester moiety, R2 = OY, NR4R5, N:R6, Y = H, alkyl, alkenyl, acyl, carbamoyl, aryl, R4 = H, alkyl, alkenyl, cycloalkyl, Prepared by M. Hale 308-4258

aryl, acyl, heterocyclyl, R5 = H, alkyl, alkenyl, cycloalkyl, aryl, heterocyclyl, C(SR7):NR8, C(NR9R10):Z, CR11:Z, R7 = alkyl or aryl, R8 = H, cycloalkyl, alkyl, R9 = H or alkyl, R10 = H, alkyl, OH, NH2, Ph, alkenyl, cycloalkyl, aryl, heterocyclyl, N:CHPhe, Phe = aryl, R9 and R10 together with nitrogen form a heterocyclyl, Z = O, S, NR13, R13 = H, alkyl or cycloalkyl, R11 = H, alkyl, aryl, cycloalkyl, or heterocyclyl, R4 and R5 together with nitrogen form a heterocyclyl, R6 = heterocyclyl, Ac = Ac1, COCZ1:CZ2Z3, COCZ1:BDZ4, B = N, CH, Z1 = aryl, cycloalkyl, 1,4-hexadienyl or heterocyclyl, Z2 = H, alkyl, CH2CO2Z5, Z5 = H, alkyl, cycloalkyl, Z3 = H, alkyl, Z4 = H or org. radical, D = O or CH2), were prepd. thereof for use as pharmaceuticals, i.e. as antibacterial agents. Thus, II was prepd. via condensation of formylcephemcarboxylic acid deriv. III in 4% aq. MeCN with guanidine IV in 1-2 N HCl. II has an MHK of 0.01 .mu.g/mL vs. Streptococcus pneumoniae (strain ATCC 49619) compared to 0.02 .mu.g/mL for ceftriaxone.

L3 ANSWER 69 OF 148 REGISTRY COPYRIGHT 2000 ACS  
 RN 184941-87-5 REGISTRY  
 CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[[(2-amino-4-thiazolyl)(methoxyimino)acetyl]amino]-3-[[[(4-formyl-1-piperazinyl)(methylamino)methylene]hydrazono]methyl]-8-oxo-, dihydrochloride, [6R-[6.alpha.,7.beta.(Z)]]- (9CI) (CA INDEX NAME)  
 FS STEREOSEARCH  
 MF C21 H26 N10 O6 S2 . 2 Cl H  
 SR CA  
 LC STN Files: CA, CAPLUS

Absolute stereochemistry.  
 Double bond geometry as described by E or Z.



● 2 HCl

1 REFERENCES IN FILE CA (1967 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 126:47035 Antibacterial cephalosporins. Ascher, Gerd;  
Ludescher, Johannes (Biochemie Gesellschaft Mbh, Austria; Ascher, Gerd;  
Ludescher, Johannes). PCT Int. Appl. WO 9635692 A1 19961114, 124 pp.  
DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN,  
CZ,  
DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS,  
LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG,  
SI; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FI, FR, GA, GB,  
GR, IE, IT, LU, MC, NL, PT, SE. (English). CODEN: PIXXD2. APPLICATION:  
WO 1996-EP2023 19960510. PRIORITY: AT 1995-794 19950511; AT 1995-992  
19950612; AT 1996-698 19960417; AT 1996-733 19960423.

GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB Compds. of formula I (R1 = H or ester moiety, R2 = OY, NR4R5, N:R6, Y =  
H,  
alkyl, alkenyl, acyl, carbamoyl, aryl, R4 = H, alkyl, alkenyl,  
cycloalkyl,  
aryl, acyl, heterocyclyl, R5 = H, alkyl, alkenyl, cycloalkyl, aryl,  
heterocyclyl, C(SR7):NR8, C(NR9R10):Z, CR11:Z, R7 = alkyl or aryl, R8 =  
H,  
cycloalkyl, alkyl, R9 = H or alkyl, R10 = H, alkyl, OH, NH2, Ph, alkenyl,  
cycloalkyl, aryl, heterocyclyl, N:CHPhe, Phe = aryl, R9 and R10 together  
with nitrogen form a heterocyclyl, Z = O, S, NR13, R13 = H, alkyl or  
cycloalkyl, R11 = H, alkyl, aryl, cycloalkyl, or heterocyclyl, R4 and R5  
together with nitrogen form a heterocyclyl, R6 = heterocyclyl, Ac = Acl,  
COCZ1:CZ2Z3, COCZ1:BDZ4, B = N, CH, Z1 = aryl, cycloalkyl, 1,4-hexadienyl  
or heterocyclyl, Z2 = H, alkyl, CH2CO2Z5, Z5 = H, alkyl, cycloalkyl, Z3 =  
H, alkyl, Z4 = H or org. radical, D = O or CH2), were prepd. thereof for  
use as pharmaceuticals, i.e. as antibacterial agents. Thus, II was  
prepd.  
via condensation of formylcephemcarboxylic acid deriv. III in 4% aq. MeCN  
with guanidine IV in 1-2 N HCl. II has an MHK of 0.01 .mu.g/mL vs.  
Streptococcus pneumoniae (strain ATCC 49619) compared to 0.02 .mu.g/mL  
for  
ceftriaxone.

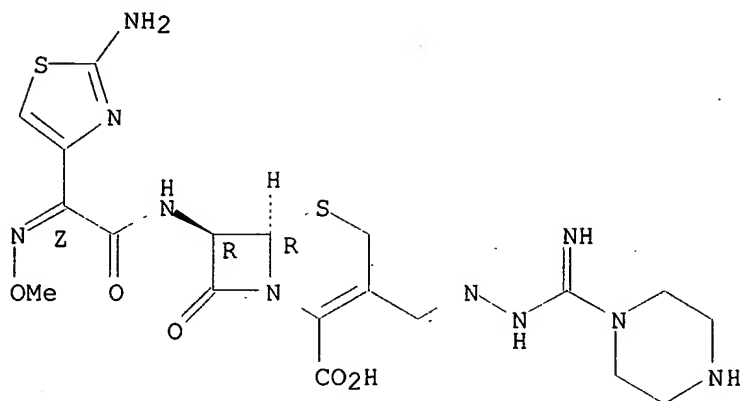
L3 ANSWER 70 OF 148 REGISTRY COPYRIGHT 2000 ACS  
RN 184941-83-1 REGISTRY  
CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,  
7-[[[(2-amino-4-thiazolyl)(methoxyimino)acetyl]amino]-3-[[[(imino-1-  
piperazinylmethyl)hydrazono]methyl]-8-oxo-, trihydrochloride,  
[6R-[6.alpha.,7.beta.(Z)]]- (9CI) (CA INDEX NAME)  
FS STEREOSEARCH  
MF C19 H24 N10 O5 S2 . 3 Cl H  
SR CA  
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

Prepared by M. Hale 308-4258

Page 168

Double bond geometry as described by E or Z.



● 3 HCl

1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 126:47035 Antibacterial cephalosporins. Ascher, Gerd; Ludescher, Johannes (Biochemie Gesellschaft Mbh, Austria; Ascher, Gerd; Ludescher, Johannes). PCT Int. Appl. WO 9635692 A1 19961114, 124 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, NL, PT, SE. (English). CODEN: PIXXD2. APPLICATION: WO 1996-EP2023 19960510. PRIORITY: AT 1995-794 19950511; AT 1995-992 19950612; AT 1996-698 19960417; AT 1996-733 19960423.

GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB Compds. of formula I (R1 = H or ester moiety, R2 = OY, NR4R5, N:R6, Y = H, alkyl, alkenyl, acyl, carbamoyl, aryl, R4 = H, alkyl, alkenyl, cycloalkyl, aryl, acyl, heterocyclyl, R5 = H, alkyl, alkenyl, cycloalkyl, aryl, heterocyclyl, C(SR7):NR8, C(NR9R10):Z, CR11:Z, R7 = alkyl or aryl, R8 = H, cycloalkyl, alkyl, R9 = H or alkyl, R10 = H, alkyl, OH, NH2, Ph, alkenyl, cycloalkyl, aryl, heterocyclyl, N:CHPhe, Phe = aryl, R9 and R10 together with nitrogen form a heterocyclyl, Z = O, S, NR13, R13 = H, alkyl or

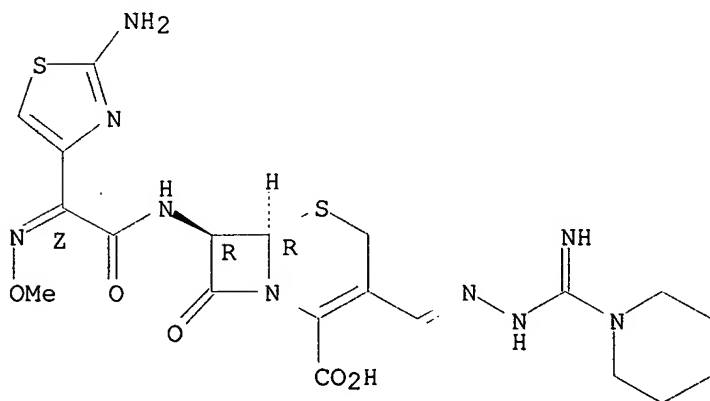
Prepared by M. Hale 308-4258

Page 169

cycloalkyl, R11 = H, alkyl, aryl, cycloalkyl, or heterocyclyl, R4 and R5 together with nitrogen form a heterocyclyl, R6 = heterocyclyl, Ac = Ac1, COCZ1:CZ2Z3, COCZ1:BDZ4, B = N, CH, Z1 = aryl, cycloalkyl, 1,4-hexadienyl or heterocyclyl, Z2 = H, alkyl, CH2CO2Z5, Z5 = H, alkyl, cycloalkyl, Z3 = H, alkyl, Z4 = H or org. radical, D = O or CH2), were prepd. thereof for use as pharmaceuticals, i.e. as antibacterial agents. Thus, II was prepd. via condensation of formylcephemcarboxylic acid deriv. III in 4% aq. MeCN with guanidine IV in 1-2 N HCl. II has an MHK of 0.01 .mu.g/mL vs. Streptococcus pneumoniae (strain ATCC 49619) compared to 0.02 .mu.g/mL for ceftriaxone.

L3 ANSWER 71 OF 148 REGISTRY COPYRIGHT 2000 ACS  
 RN 184941-82-0 REGISTRY  
 CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[[(2-amino-4-thiazolyl)(methoxyimino)acetyl]amino]-3-[[[(imino-1-piperidinylmethyl)hydrazono]methyl]-8-oxo-, dihydrochloride, [6R-[6.alpha.,7.beta.(Z)]]- (9CI) (CA INDEX NAME)  
 FS STEREOSEARCH  
 MF C20 H25 N9 O5 S2 . 2 Cl H  
 SR CA  
 LC STN Files: CA, CAPLUS

Absolute stereochemistry.  
 Double bond geometry as described by E or Z.



● 2 HCl

1 REFERENCES IN FILE CA (1967 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 126:47035 Antibacterial cephalosporins. Ascher, Gerd;  
 Ludescher, Johannes (Biochemie Gesellschaft Mbh, Austria; Ascher, Gerd;  
 Ludescher, Johannes) PCT Int. Appl. WO 9635692 A1 19961114, 124 pp.  
 Prepared by M. Hale 308-4258 Page 170

DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN,  
CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS,  
LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG,  
SI; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FI, FR, GA, GB,  
GR, IE, IT, LU, MC, NL, PT, SE. (English). CODEN: PIXXD2. APPLICATION:  
WO 1996-EP2023 19960510. PRIORITY: AT 1995-794 19950511; AT 1995-992  
19950612; AT 1996-698 19960417; AT 1996-733 19960423.  
GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

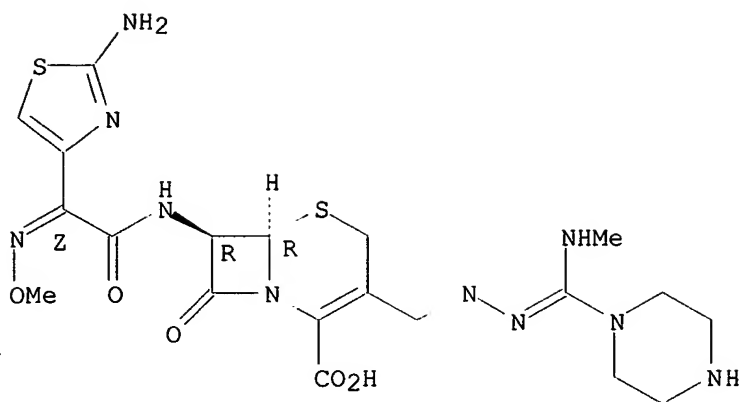
AB Compds. of formula I (R1 = H or ester moiety, R2 = OY, NR4R5, N:R6, Y =  
H,  
alkyl, alkenyl, acyl, carbamoyl, aryl, R4 = H, alkyl, alkenyl,  
cycloalkyl,  
aryl, acyl, heterocyclyl, R5 = H, alkyl, alkenyl, cycloalkyl, aryl,  
heterocyclyl, C(SR7):NR8, C(NR9R10):Z, CR11:Z, R7 = alkyl or aryl, R8 =  
H,  
cycloalkyl, alkyl, R9 = H or alkyl, R10 = H, alkyl, OH, NH2, Ph, alkenyl,  
cycloalkyl, aryl, heterocyclyl, N:CHPhe, Phe = aryl, R9 and R10 together  
with nitrogen form a heterocyclyl, Z = O, S, NR13, R13 = H, alkyl or  
cycloalkyl, R11 = H, alkyl, aryl, cycloalkyl, or heterocyclyl, R4 and R5  
together with nitrogen form a heterocyclyl, R6 = heterocyclyl, Ac = Ac1,  
COCZ1:CZ2Z3, COCZ1:BDZ4, B = N, CH, Z1 = aryl, cycloalkyl, 1,4-hexadienyl  
or heterocyclyl, Z2 = H, alkyl, CH2CO2Z5, Z5 = H, alkyl, cycloalkyl, Z3 =  
H, alkyl, Z4 = H or org. radical, D = O or CH2), were prepd. thereof for  
use as pharmaceuticals, i.e. as antibacterial agents. Thus, II was  
prepd.  
via condensation of formylcephemcarboxylic acid deriv. III in 4% aq. MeCN  
with guanidine IV in 1-2 N HCl. II has an MHK of 0.01 .mu.g/mL vs.  
Streptococcus pneumoniae (strain ATCC 49619) compared to 0.02 .mu.g/mL  
for  
ceftriaxone.

L3 ANSWER 72 OF 148 REGISTRY COPYRIGHT 2000 ACS  
RN 184941-79-5 REGISTRY  
CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,

7-[[[(2-amino-4-thiazolyl)(methoxyimino)acetyl]amino]-3-[[[(methylamino)-1-  
piperazinylmethylene]hydrazono]methyl]-8-oxo-, trihydrochloride,  
[6R-[6.alpha.,7.beta.(Z)]]- (9CI) (CA INDEX NAME)

FS STEREOSEARCH  
MF C20 H26 N10 O5 S2 . 3 Cl H  
SR CA  
LC STN Files: CA, CAPLUS

Absolute stereochemistry.  
Double bond geometry as described by E or Z.



● 3 HCl

1 REFERENCES IN FILE CA (1967 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 126:47035 Antibacterial cephalosporins. Ascher, Gerd;  
Ludescher, Johannes (Biochemie Gesellschaft MbH, Austria; Ascher, Gerd;  
Ludescher, Johannes). PCT Int. Appl. WO 9635692 A1 19961114, 124 pp.  
DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN,  
CZ,  
DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS,  
LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG,  
SI; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FI, FR, GA, GB,  
GR, IE, IT, LU, MC, NL, PT, SE. (English). CODEN: PIXXD2. APPLICATION:  
WO 1996-EP2023 19960510. PRIORITY: AT 1995-794 19950511; AT 1995-992  
19950612; AT 1996-698 19960417; AT 1996-733 19960423.

GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB Compds. of formula I (R1 = H or ester moiety, R2 = OY, NR4R5, N:R6, Y =  
H,  
alkyl, alkenyl, acyl, carbamoyl, aryl, R4 = H, alkyl, alkenyl,  
cycloalkyl,  
aryl, acyl, heterocyclyl, R5 = H, alkyl, alkenyl, cycloalkyl, aryl,  
heterocyclyl, C(SR7):NR8, C(NR9R10):Z, CR11:Z, R7 = alkyl or aryl, R8 =  
H,  
cycloalkyl, alkyl, R9 = H or alkyl, R10 = H, alkyl, OH, NH2, Ph, alkenyl,  
cycloalkyl, aryl, heterocyclyl, N:CHPhe, Phe = aryl, R9 and R10 together  
with nitrogen form a heterocyclyl, Z = O, S, NR13, R13 = H, alkyl or  
cycloalkyl, R11 = H, alkyl, aryl, cycloalkyl, or heterocyclyl, R4 and R5  
together with nitrogen form a heterocyclyl, R6 = heterocyclyl, Ac = Ac1,  
COCZ1:BDZ4, B = N, CH, Z1 = aryl, cycloalkyl, 1,4-hexadienyl  
Prepared by M. Hale 308-4258 Page 172

or heterocyclyl, Z2 = H, alkyl, CH2CO2Z5, Z5 = H, alkyl, cycloalkyl, Z3 = H, alkyl, Z4 = H or org. radical, D = O or CH2), were prepd. thereof for use as pharmaceuticals, i.e. as antibacterial agents. Thus, II was prepd.

via condensation of formylcephemcarboxylic acid deriv. III in 4% aq. MeCN with guanidine IV in 1-2 N HCl. II has an MHK of 0.01 .mu.g/mL vs. Streptococcus pneumoniae (strain ATCC 49619) compared to 0.02 .mu.g/mL for ceftriaxone.

L3 ANSWER 73 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 184941-70-6 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[[(2-amino-4-thiazolyl)(methoxyimino)acetyl]amino]-3-[[[(imino-4-morpholinylmethyl)hydrazono]methyl]-8-oxo-, dihydrochloride, [6R-[6.alpha.,7.beta.(Z)]]- (9CI) (CA INDEX NAME)

FS STEREOSEARCH

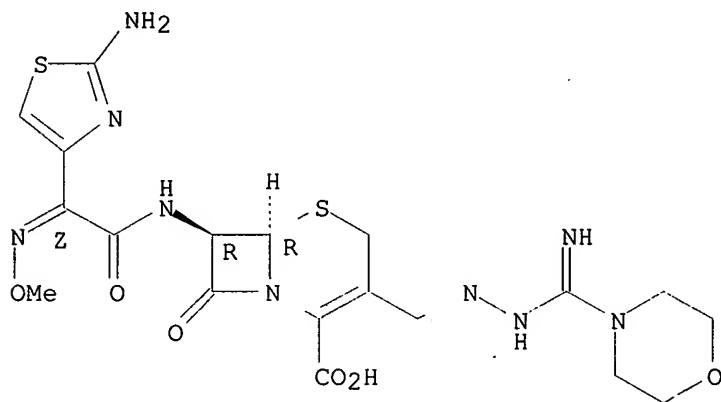
MF C19 H23 N9 O6 S2 . 2 C1 H

SR CA

LC STN Files: CA, CAPLUS

Absolute stereochemistry.

Double bond geometry as described by E or Z.



● 2 HCl

1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 126:47035 Antibacterial cephalosporins. Ascher, Gerd; Ludescher, Johannes (Biochemie Gesellschaft Mbh, Austria; Ascher, Gerd; Ludescher, Johannes). PCT Int. Appl. WO 9635692 A1 19961114, 124 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN,

CZ,

DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS

Prepared by M. Hale 308-4258

Page 173

LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, NL, PT, SE. (English). CODEN: PIXXD2. APPLICATION: WO 1996-EP2023 19960510. PRIORITY: AT 1995-794 19950511; AT 1995-992 19950612; AT 1996-698 19960417; AT 1996-733 19960423.

GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

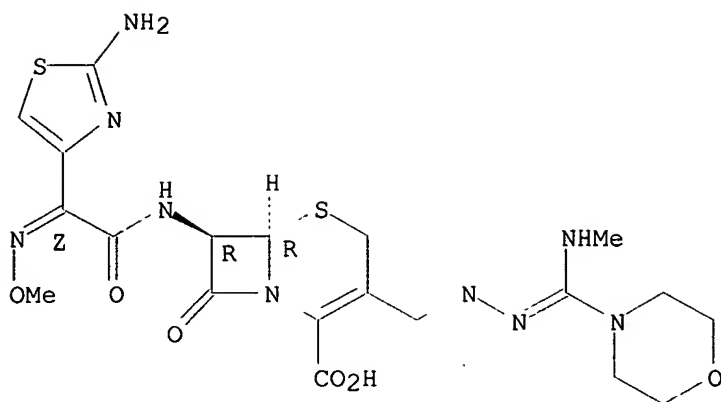
AB Compds. of formula I (R1 = H or ester moiety, R2 = OY, NR4R5, N:R6, Y = H, alkyl, alkenyl, acyl, carbamoyl, aryl, R4 = H, alkyl, alkenyl, cycloalkyl, aryl, acyl, heterocyclyl, R5 = H, alkyl, alkenyl, cycloalkyl, aryl, heterocyclyl, C(SR7):NR8, C(NR9R10):Z, CR11:Z, R7 = alkyl or aryl, R8 = H, cycloalkyl, alkyl, R9 = H or alkyl, R10 = H, alkyl, OH, NH2, Ph, alkenyl, cycloalkyl, aryl, heterocyclyl, N:CHPhe, Phe = aryl, R9 and R10 together with nitrogen form a heterocyclyl, Z = O, S, NR13, R13 = H, alkyl or cycloalkyl, R11 = H, alkyl, aryl, cycloalkyl, or heterocyclyl, R4 and R5 together with nitrogen form a heterocyclyl, R6 = heterocyclyl, Ac = Acl, COCZ1:CZ2Z3, COCZ1:BDZ4, B = N, CH, Z1 = aryl, cycloalkyl, 1,4-hexadienyl or heterocyclyl, Z2 = H, alkyl, CH2CO2Z5, Z5 = H, alkyl, cycloalkyl, Z3 = H, alkyl, Z4 = H or org. radical, D = O or CH2), were prepd. thereof for use as pharmaceuticals, i.e. as antibacterial agents. Thus, II was prepd. via condensation of formylcephemcarboxylic acid deriv. III in 4% aq. MeCN with guanidine IV in 1-2 N HCl. II has an MHK of 0.01 .mu.g/mL vs. Streptococcus pneumoniae (strain ATCC 49619) compared to 0.02 .mu.g/mL for ceftriaxone.

L3 ANSWER 74 OF 148 REGISTRY COPYRIGHT 2000 ACS  
RN 184941-66-0 REGISTRY  
CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,

7-[(2-amino-4-thiazolyl)(methoxyimino)acetyl]amino]-3-[[[(methylamino)-4-morpholinylmethylene]hydrazono]methyl]-8-oxo-, dihydrochloride, [6R-[6.alpha.,7.beta.(Z)]]- (9CI) (CA INDEX NAME)

FS STEREOSEARCH  
MF C20 H25 N9 O6 S2 . 2 Cl H  
SR CA  
LC STN Files: CA, CAPLUS

Absolute stereochemistry.  
Double bond geometry as described by E or Z.



● 2 HCl

1 REFERENCES IN FILE CA (1967 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 126:47035 Antibacterial cephalosporins. Ascher, Gerd; Ludescher, Johannes (Biochemie Gesellschaft Mbh, Austria; Ascher, Gerd; Ludescher, Johannes). PCT Int. Appl. WO 9635692 A1 19961114, 124 pp.  
DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, NL, PT, SE. (English). CODEN: PIXXD2. APPLICATION: WO 1996-EP2023 19960510. PRIORITY: AT 1995-794 19950511; AT 1995-992 19950612; AT 1996-698 19960417; AT 1996-733 19960423.

GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

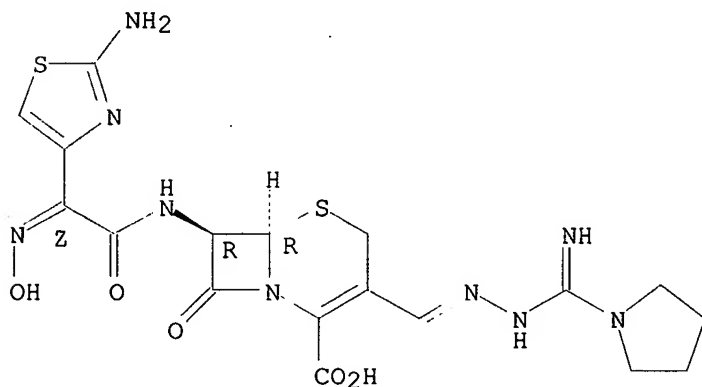
AB Compds. of formula I (R1 = H or ester moiety, R2 = OY, NR4R5, N:R6, Y = H, alkyl, alkenyl, acyl, carbamoyl, aryl, R4 = H, alkyl, alkenyl, cycloalkyl, aryl, acyl, heterocyclyl, R5 = H, alkyl, alkenyl, cycloalkyl, aryl, heterocyclyl, C(SR7):NR8, C(NR9R10):Z, CR11:Z, R7 = alkyl or aryl, R8 = H, cycloalkyl, alkyl, R9 = H or alkyl, R10 = H, alkyl, OH, NH2, Ph, alkenyl, cycloalkyl, aryl, heterocyclyl, N:CHPhe, Phe = aryl, R9 and R10 together with nitrogen form a heterocyclyl, Z = O, S, NR13, R13 = H, alkyl or cycloalkyl, R11 = H, alkyl, aryl, cycloalkyl, or heterocyclyl, R4 and R5 together with nitrogen form a heterocyclyl, R6 = heterocyclyl, Ac = Acl, COCZ1:BDZ4, B = N, CH, Z1 = aryl, cycloalkyl, 1,4-hexadienyl  
Prepared by M. Hale 308-4258 Page 175

or heterocyclyl, Z2 = H, alkyl, CH2CO2Z5, Z5 = H, alkyl, cycloalkyl, Z3 = H, alkyl, Z4 = H or org. radical, D = O or CH2), were prepd. thereof for use as pharmaceuticals, i.e. as antibacterial agents. Thus, II was prepd.

via condensation of formylcephemcarboxylic acid deriv. III in 4% aq. MeCN with guanidine IV in 1-2 N HCl. II has an MHK of 0.01 .mu.g/mL vs. Streptococcus pneumoniae (strain ATCC 49619) compared to 0.02 .mu.g/mL for ceftriaxone.

L3 ANSWER 75 OF 148 REGISTRY COPYRIGHT 2000 ACS  
 RN 184941-47-7 REGISTRY  
 CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[[(2-amino-4-thiazolyl)(hydroxyimino)acetyl]amino]-3-[[[imino-1-pyrrolidinylmethyl]hydrazono]methyl]-8-oxo-, dihydrochloride, [6R-[6.alpha.,7.beta.(Z)]]- (9CI) (CA INDEX NAME)  
 FS STEREOSEARCH  
 MF C18 H21 N9 O5 S2 . 2 Cl H  
 SR CA  
 LC STN Files: CA, CAPLUS

Absolute stereochemistry.  
 Double bond geometry as described by E or Z.



● 2 HCl

1 REFERENCES IN FILE CA (1967 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 126:47035 Antibacterial cephalosporins. Ascher, Gerd; Ludescher, Johannes (Biochemie Gesellschaft Mbh, Austria; Ascher, Gerd; Ludescher, Johannes). PCT Int. Appl. WO 9635692 A1 19961114, 124 pp.  
 DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN,

CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG  
 Prepared by M. Hale 308-4258 Page 176

SI; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, NL, PT, SE. (English). CODEN: PIXXD2. APPLICATION: WO 1996-EP2023 19960510. PRIORITY: AT 1995-794 19950511; AT 1995-992 19950612; AT 1996-698 19960417; AT 1996-733 19960423.

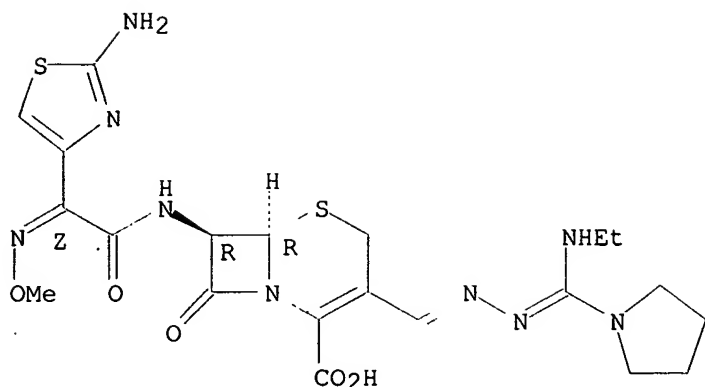
GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB Compds. of formula I (R1 = H or ester moiety, R2 = OY, NR4R5, N:R6, Y = H, alkyl, alkenyl, acyl, carbamoyl, aryl, R4 = H, alkyl, alkenyl, cycloalkyl, aryl, acyl, heterocyclyl, R5 = H, alkyl, alkenyl, cycloalkyl, aryl, heterocyclyl, C(SR7):NR8, C(NR9R10):Z, CR11:Z, R7 = alkyl or aryl, R8 = H, cycloalkyl, alkyl, R9 = H or alkyl, R10 = H, alkyl, OH, NH2, Ph, alkenyl, cycloalkyl, aryl, heterocyclyl, N:CHPhe, Phe = aryl, R9 and R10 together with nitrogen form a heterocyclyl, Z = O, S, NR13, R13 = H, alkyl or cycloalkyl, R11 = H, alkyl, aryl, cycloalkyl, or heterocyclyl, R4 and R5 together with nitrogen form a heterocyclyl, R6 = heterocyclyl, Ac = Ac1, COCZ1:CZ2Z3, COCZ1:BDZ4, B = N, CH, Z1 = aryl, cycloalkyl, 1,4-hexadienyl or heterocyclyl, Z2 = H, alkyl, CH2CO2Z5, Z5 = H, alkyl, cycloalkyl, Z3 = H, alkyl, Z4 = H or org. radical, D = O or CH2), were prepd. thereof for use as pharmaceuticals, i.e. as antibacterial agents. Thus, II was prepd. via condensation of formylcephemcarboxylic acid deriv. III in 4% aq. MeCN with guanidine IV in 1-2 N HCl. II has an MHK of 0.01 .mu.g/mL vs. Streptococcus pneumoniae (strain ATCC 49619) compared to 0.02 .mu.g/mL for ceftriaxone.

L3 ANSWER 76 OF 148 REGISTRY COPYRIGHT 2000 ACS  
RN 184941-43-3 REGISTRY  
CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[[(2-amino-4-thiazolyl)(methoxyimino)acetyl]amino]-3-[[[(ethylamino)-1-pyrrolidinylmethylene]hydrazono]methyl]-8-oxo-, dihydrochloride, [6R-[6.alpha.,7.beta.(Z)]]- (9CI) (CA INDEX NAME)  
FS STEREOSEARCH  
MF C21 H27 N9 O5 S2 . 2 Cl H  
SR CA  
LC STN Files: CA, CAPLUS

Absolute stereochemistry.  
Double bond geometry as described by E or Z.



● 2 HCl

1 REFERENCES IN FILE CA (1967 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 126:47035 Antibacterial cephalosporins. Ascher, Gerd;  
Ludescher, Johannes (Biochemie Gesellschaft Mbh, Austria; Ascher, Gerd;  
Ludescher, Johannes). PCT Int. Appl. WO 9635692 A1 19961114, 124 pp.  
DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN,  
CZ,  
DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS,  
LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG,  
SI; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FI, FR, GA, GB,  
GR, IE, IT, LU, MC, NL, PT, SE. (English). CODEN: PIXXD2. APPLICATION:  
WO 1996-EP2023 19960510. PRIORITY: AT 1995-794 19950511; AT 1995-992  
19950612; AT 1996-698 19960417; AT 1996-733 19960423.

GI

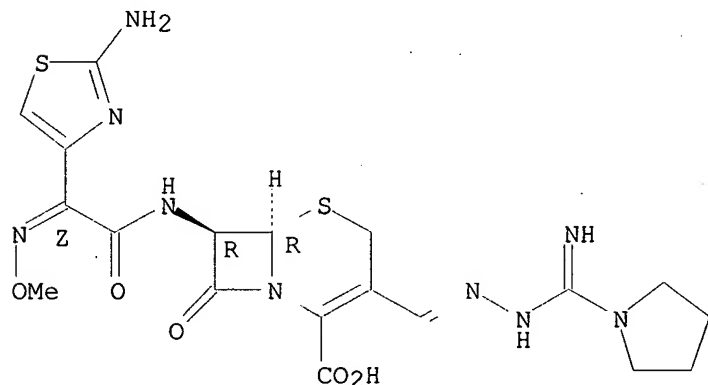
\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB Compds. of formula I (R1 = H or ester moiety, R2 = OY, NR4R5, N:R6, Y =  
H,  
alkyl, alkenyl, acyl, carbamoyl, aryl, R4 = H, alkyl, alkenyl,  
cycloalkyl,  
aryl, acyl, heterocyclyl, R5 = H, alkyl, alkenyl, cycloalkyl, aryl,  
heterocyclyl, C(SR7):NR8, C(NR9R10):Z, CR11:Z, R7 = alkyl or aryl, R8 =  
H,  
cycloalkyl, alkyl, R9 = H or alkyl, R10 = H, alkyl, OH, NH2, Ph, alkenyl,  
cycloalkyl, aryl, heterocyclyl, N:CHPhe, Phe = aryl, R9 and R10 together  
with nitrogen form a heterocyclyl, Z = O, S, NR13, R13 = H, alkyl or  
cycloalkyl, R11 = H, alkyl, aryl, cycloalkyl, or heterocyclyl, R4 and R5  
together with nitrogen form a heterocyclyl, R6 = heterocyclyl, Ac = Acl,  
COCZ1:BDZ4, B = N, CH, Z1 = aryl, cycloalkyl, 1,4-hexadienyl  
or heterocyclyl, Z2 = H, alkyl, CH2CO2Z5, Z5 = H, alkyl, cycloalkyl, Z3 =  
Prepared by M. Hale 308-4258 Page 178

H, alkyl, Z4 = H or org. radical, D = O or CH2), were prepd. thereof for use as pharmaceuticals, i.e. as antibacterial agents. Thus, II was prepd. via condensation of formylcephemcarboxylic acid deriv. III in 4% aq. MeCN with guanidine IV in 1-2 N HCl. II has an MHK of 0.01 .mu.g/mL vs. Streptococcus pneumoniae (strain ATCC 49619) compared to 0.02 .mu.g/mL for ceftriaxone.

L3 ANSWER 77 OF 148 REGISTRY COPYRIGHT 2000 ACS  
 RN 184941-39-7 REGISTRY  
 CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[[(2-amino-4-thiazolyl)(methoxyimino)acetyl]amino]-3-[[[(imino-1-pyrrolidinylmethyl)hydrazono]methyl]-8-oxo-, dihydrochloride, [6R-[6.alpha.,7.beta.(Z)]]- (9CI) (CA INDEX NAME)  
 FS STEREOSEARCH  
 MF C19 H23 N9 O5 S2 . 2 Cl H  
 SR CA  
 LC STN Files: CA, CAPLUS

Absolute stereochemistry.  
 Double bond geometry as described by E or Z.



● 2 HCl

1 REFERENCES IN FILE CA (1967 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 126:47035 Antibacterial cephalosporins. Ascher, Gerd; Ludescher, Johannes (Biochemie Gesellschaft Mbh, Austria; Ascher, Gerd; Ludescher, Johannes). PCT Int. Appl. WO 9635692 A1 19961114, 124 pp.  
 DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FI, FR, GA, GB  
 Prepared by M. Hale 308-4258 Page 179

GR, IE, IT, LU, MC, NL, PT, SE. (English). CODEN: PIXXD2. APPLICATION:  
WO 1996-EP2023 19960510. PRIORITY: AT 1995-794 19950511; AT 1995-992  
19950612; AT 1996-698 19960417; AT 1996-733 19960423.

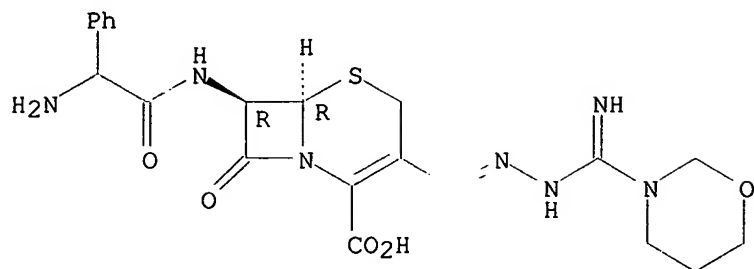
GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB Compds. of formula I (R1 = H or ester moiety, R2 = OY, NR4R5, N:R6, Y =  
H,  
alkyl, alkenyl, acyl, carbamoyl, aryl, R4 = H, alkyl, alkenyl,  
cycloalkyl,  
aryl, acyl, heterocyclyl, R5 = H, alkyl, alkenyl, cycloalkyl, aryl,  
heterocyclyl, C(SR7):NR8, C(NR9R10):Z, CR11:Z, R7 = alkyl or aryl, R8 =  
H,  
cycloalkyl, alkyl, R9 = H or alkyl, R10 = H, alkyl, OH, NH2, Ph, alkenyl,  
cycloalkyl, aryl, heterocyclyl, N:CHPhe, Phe = aryl, R9 and R10 together  
with nitrogen form a heterocyclyl, Z = O, S, NR13, R13 = H, alkyl or  
cycloalkyl, R11 = H, alkyl, aryl, cycloalkyl, or heterocyclyl, R4 and R5  
together with nitrogen form a heterocyclyl, R6 = heterocyclyl, Ac = Ac1,  
COCZ1:CZ2Z3, COCZ1:BDZ4, B = N, CH, Z1 = aryl, cycloalkyl, 1,4-hexadienyl  
or heterocyclyl, Z2 = H, alkyl, CH2CO2Z5, Z5 = H, alkyl, cycloalkyl, Z3 =  
H, alkyl, Z4 = H or org. radical, D = O or CH2), were prepd. thereof for  
use as pharmaceuticals, i.e. as antibacterial agents. Thus, II was  
prepd.  
via condensation of formylcephemcarboxylic acid deriv. III in 4% aq. MeCN  
with guanidine IV in 1-2 N HCl. II has an MHK of 0.01 .mu.g/mL vs.  
Streptococcus pneumoniae (strain ATCC 49619) compared to 0.02 .mu.g/mL  
for  
ceftriaxone.

L3 ANSWER 78 OF 148 REGISTRY COPYRIGHT 2000 ACS  
RN 62869-99-2 REGISTRY  
CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,  
7-[(aminophenylacetyl)amino]-3-[[[(dihydro-2H-1,3-oxazin-3(4H)-  
yl)iminomethyl]hydrazono]methyl]-8-oxo-, [6R-(6.alpha.,7.beta.)]-,  
mono(trifluoroacetate) (9CI) (CA INDEX NAME).  
OTHER CA INDEX NAMES:  
CN 2H-1,3-Oxazine, 5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid  
deriv.  
CN Acetic acid, trifluoro-, compd. with [6R-(6.alpha.,7.beta.)]-7-  
[(aminophenylacetyl)amino]-3-[[[(dihydro-2H-1,3-oxazin-3(4H)-  
yl)iminomethyl]hydrazono]methyl]-8-oxo-5-thia-1-azabicyclo[4.2.0]oct-2-ene-  
2-carboxylic acid (1:1)  
FS STEREOSEARCH  
MF C21 H25 N7 O5 S . C2 H F3 O2  
LC STN Files: CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL  
  
CM 1  
  
CRN 62733-46-4  
CMF C21 H25 N7 O5 S

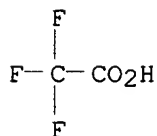
Absolute stereochemistry.  
Double bond geometry unknown.



CM 2

CRN 76-05-1

CMF C2 H F3 O2

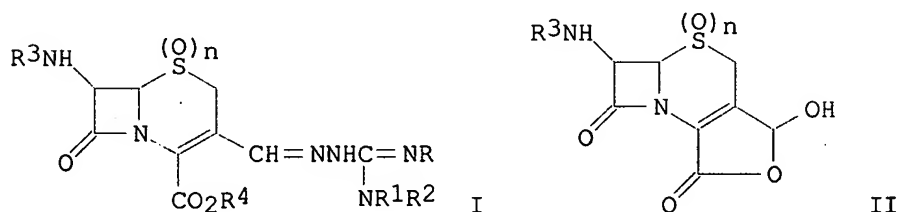


1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 86:189975 Cephalosporin compounds. Yoshioka, Mitsuru; Murakami, Masayuki; Sendo, Yuji; Miyazaki, Sadao; Ishikura, Koji (Shionogi and Co., Ltd., Japan). U.S. US 3997528 19761214, 23 pp. (English). CODEN: USXXAM. PRIORITY: JP 1973-12032 19731025.

GI



AB The antibacterial (no data) (guanyldiazono)cephalosporins I (R, R1, R2

= alkyl, alkenyl, aralkyl, aryl, NH2, MeO; NR1R2 = N-heterocyclic, i.e. morpholino, piperidino; RR1 = CH2CH2; R3 = H, thienylacetyl, PhOCH2CO, H2NCHPhCO, PhCH2CO, furylacetyl, tetrazolylacetyl, Me3CCO2C, Cl3CCH2O2C; Prepared by M. Hale 308-4258 Page 181

R4 = H; n = 1, 0) and their salts were prepd. by treating the hemiacetal lactones II with H<sub>2</sub>NNHC(NR<sub>1</sub>R<sub>2</sub>):NR (III). I (R4 = 4-O<sub>2</sub>NC<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>, Ph<sub>2</sub>CH, Me) were prepd. by treating 3-formylcephem-4-carboxylates with III.

L3 ANSWER 79 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 62777-35-9 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,

3-[[[(2,6-dimethyl-4-morpholinyl)iminomethyl]hydrazono]methyl]-8-oxo-7-[(2-thienylacetyl)amino]-, (6R,7R)- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,

3-[[[(2,6-dimethyl-4-morpholinyl)iminomethyl]hydrazono]methyl]-8-oxo-7-[(2-thienylacetyl)amino]-, [6R-(6.alpha.,7.beta.)]-

FS STEREOSEARCH

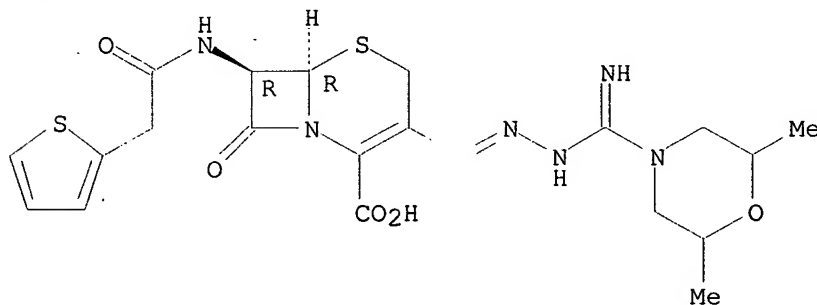
MF C21 H26 N6 O5 S2

CI COM

LC STN Files: BEILSTEIN\*, CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL  
(\*File contains numerically searchable property data)

Absolute stereochemistry.

Double bond geometry unknown.

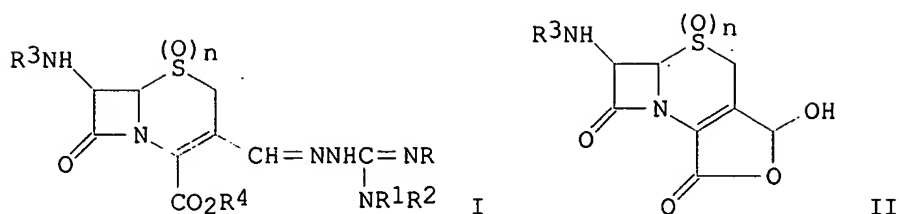


1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 86:189975 Cephalosporin compounds. Yoshioka, Mitsuru; Murakami, Masayuki; Sendo, Yuji; Miyazaki, Sadao; Ishikura, Koji (Shionogi and Co., Ltd., Japan). U.S. US 3997528 19761214, 23 pp. (English). CODEN: USXXAM. PRIORITY: JP 1973-12032 19731025.

GI



AB The antibacterial (no data) (guanyldihydrothiazine)cephalosporins I (R, R1, R2  
 = alkyl, alkenyl, aralkyl, aryl, NH2, MeO; NR1R2 = N-heterocyclic, i.e. morpholino, piperidino; RR1 = CH2CH2; R3 = H, thienylacetyl, PhOCH2CO, H2NCHPhCO, PhCH2CO, furylacetyl, tetrazolylacetyl, Me3CCO2C, Cl3CCH2O2C; R4 = H; n = 1, 0) and their salts were prepd. by treating the hemiacetal lactones II with H2NNHC(NR1R2):NR (III). I (R4 = 4-O2NC6H4CH2, Ph2CH, Me) were prepd. by treating 3-formylcephem-4-carboxylates with III.

L3 ANSWER 80 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 62777-34-8 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,

3-[[[(2,5-dimethyl-4-morpholinyl)iminomethyl]hydrazono]methyl]-8-oxo-7-[(2-thienylacetyl)amino]-, (6R,7R)- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,

3-[[[(2,5-dimethyl-4-morpholinyl)iminomethyl]hydrazono]methyl]-8-oxo-7-[(2-thienylacetyl)amino]-, [6R-(6.alpha.,7.beta.)]-

FS STEREOSEARCH

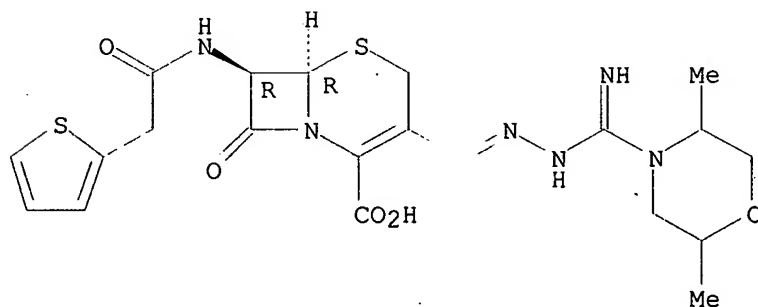
MF C21 H26 N6 O5 S2

CI COM

LC STN Files: BEILSTEIN\*, CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL  
 (\*File contains numerically searchable property data)

Absolute stereochemistry.

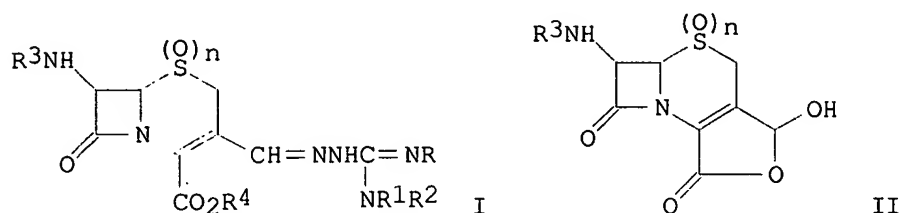
Double bond geometry unknown.



1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 86:189975 Cephalosporin compounds. Yoshioka, Mitsuru; Murakami, Masayuki; Sendo, Yuji; Miyazaki, Sadao; Ishikura, Koji (Shionogi and Co., Ltd., Japan). U.S. US 3997528 19761214, 23 pp. (English). CODEN: USXXAM. PRIORITY: JP 1973-12032 19731025.

GI



AB The antibacterial (no data) (guanylhyaazono)cephalosporins I (R, R1, R2 = alkyl, alkenyl, aralkyl, aryl, NH2, MeO; NR1R2 = N-heterocyclic, i.e. morpholino, piperidino; RR1 = CH2CH2; R3 = H, thienylacetyl, PhOCH2CO, H2NCHPhCO, PhCH2CO, furylacetyl, tetrazolylacetyl, Me3CCO2C, Cl3CCCH2O2C; R4 = H; n = 1, 0) and their salts were prepd. by treating the hemiacetal lactones II with H2NNHC(NR1R2):NR (III). I (R4 = 4-O2NC6H4CH2, Ph2CH, Me) were prepd. by treating 3-formylcephem-4-carboxylates with III.

L3 ANSWER 81 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 62777-33-7 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 3-[[[imino(3-methyl-4-morpholinyl)methyl]hydrazono]methyl]-8-oxo-7-[(2-thienylacetyl)amino]-, (6R,7R)- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 3-[[[imino(3-methyl-4-morpholinyl)methyl]hydrazono]methyl]-8-oxo-7-[(2-thienylacetyl)amino]-, [6R-(6.alpha.,7.beta.)]-

FS STEREOSEARCH

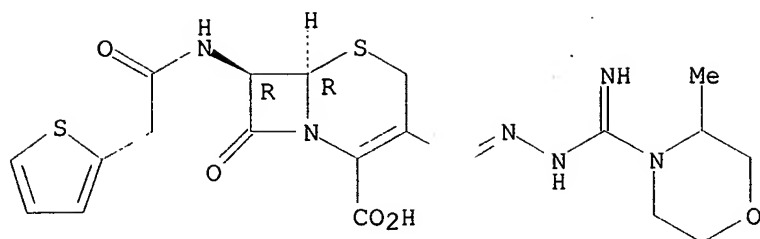
MF C20 H24 N6 O5 S2

CI COM

LC STN Files: BEILSTEIN\*, CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL (\*File contains numerically searchable property data)

Absolute stereochemistry.

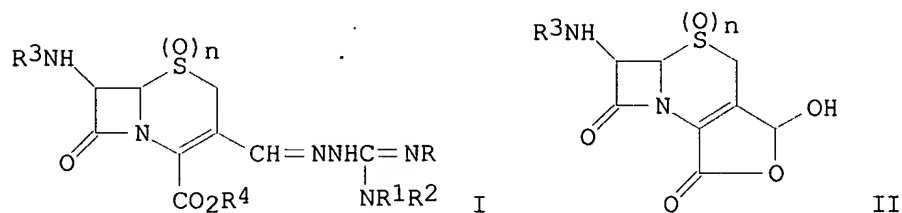
Double bond geometry unknown.



1 REFERENCES IN FILE CA (1967 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 86:189975 Cephalosporin compounds. Yoshioka, Mitsuru; Murakami, Masayuki; Sendo, Yuji; Miyazaki, Sadao; Ishikura, Koji (Shionogi and Co., Ltd., Japan). U.S. US 3997528 19761214, 23 pp. (English). CODEN: USXXAM. PRIORITY: JP 1973-12032 19731025.

GI



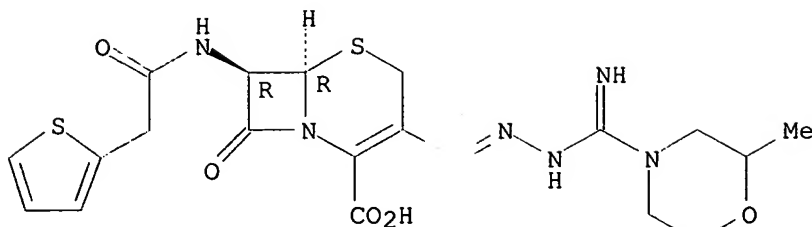
AB The antibacterial (no data) (guanylhyaazono)cephalosporins I (R, R1, R2 = alkyl, alkenyl, aralkyl, aryl, NH2, MeO; NR1R2 = N-heterocyclic, i.e. morpholino, piperidino; RR1 = CH2CH2; R3 = H, thienylacetyl, PhOCH2CO, H2NCHPhCO, PhCH2CO, furylacetyl, tetrazolylacetyl, Me3CCO2C, Cl3CCH2O2C; R4 = H; n = 1, 0) and their salts were prepd. by treating the hemiacetal lactones II with H2NNHC(NR1R2):NR (III). I (R4 = 4-O2NC6H4CH2, Ph2CH, Me) were prepd. by treating 3-formylcephem-4-carboxylates with III.

L3 ANSWER 82 OF 148 REGISTRY COPYRIGHT 2000 ACS  
RN 62777-32-6 REGISTRY  
CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 3-[[[imino(2-methyl-4-morpholinyl)methyl]hydrazono]methyl]-8-oxo-7-[(2-thienylacetyl)amino]-, hydrobromide (2:1), [6R-(6.alpha.,7.beta.)]- (9CI) (CA INDEX NAME)  
FS STEREOSEARCH  
MF C20 H24 N6 O5 S2 . 1/2 Br H  
LC STN Files: CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL  
CRN (56204-00-3)

Absolute stereochemistry. Prepared by M. Hale 308-4258

Page 185

Double bond geometry unknown.



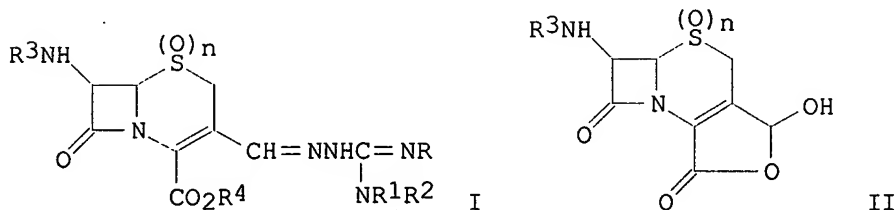
● 1/2 HBr

1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 86:189975 Cephalosporin compounds. Yoshioka, Mitsuru; Murakami, Masayuki; Sendo, Yuji; Miyazaki, Sadao; Ishikura, Koji (Shionogi and Co., Ltd., Japan). U.S. US 3997528 19761214, 23 pp. (English). CODEN: USXXAM. PRIORITY: JP 1973-12032 19731025.

GI



AB The antibacterial (no data) (guanyldihydrazono)cephalosporins I (R, R<sub>1</sub>, R<sub>2</sub> = alkyl, alkenyl, aralkyl, aryl, NH<sub>2</sub>, MeO; NR<sub>1</sub>R<sub>2</sub> = N-heterocyclic, i.e. morpholino, piperidino; RR<sub>1</sub> = CH<sub>2</sub>CH<sub>2</sub>; R<sub>3</sub> = H, thienylacetyl, PhOCH<sub>2</sub>CO, H<sub>2</sub>NCHPhCO, PhCH<sub>2</sub>CO, furylacetyl, tetrazolylacetyl, Me<sub>3</sub>CCO<sub>2</sub>C, Cl<sub>3</sub>CCCH<sub>2</sub>O<sub>2</sub>C; R<sub>4</sub> = H; n = 1, 0) and their salts were prepd. by treating the hemiacetal lactones II with H<sub>2</sub>NNHC(NR<sub>1</sub>R<sub>2</sub>):NR (III). I (R<sub>4</sub> = 4-O<sub>2</sub>NC<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>, Ph<sub>2</sub>CH, Me) were prepd. by treating 3-formylcephem-4-carboxylates with III.

L3 ANSWER 83 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 62766-40-9 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-amino-3-[[[(imino-4-morpholinylmethyl)hydrazono]methyl]-8-oxo-, (6R,7R)-,

bis(trifluoroacetate) (9CI) (CA INDEX NAME)

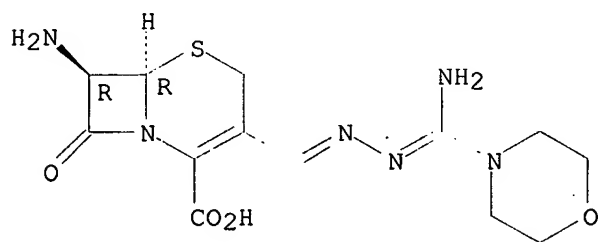
OTHER CA INDEX NAMES:

Prepared by M. Hale 308-4258

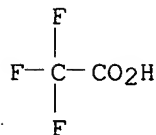
Page 186

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,  
 7-amino-3-[[ (imino-4-morpholinylmethyl)hydrazono]methyl]-8-oxo-,  
 (6R-trans)-, bis(trifluoroacetate)  
 CN Acetic acid, trifluoro-, compd. with (6R-trans)-7-amino-3-[[ (imino-4-  
 morpholinylmethyl)hydrazono]methyl]-8-oxo-5-thia-1-azabicyclo[4.2.0]oct-2-  
 ene-2-carboxylic acid (2:1)  
 FS STEREOSEARCH  
 MF C13 H18 N6 O4 S . 2 C2 H F3 O2  
 LC STN Files: CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL  
  
 CM 1  
  
 CRN 62766-39-6  
 CMF C13 H18 N6 O4 S

Absolute stereochemistry.  
 Double bond geometry unknown.



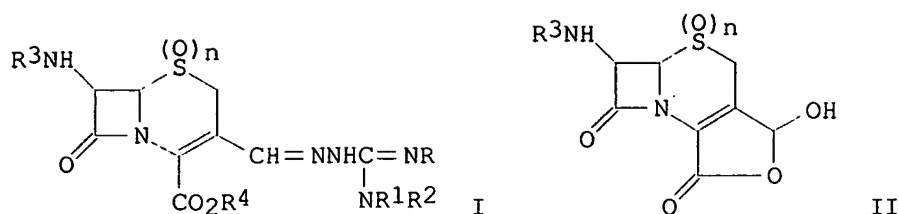
CM 2  
  
 CRN 76-05-1  
 CMF C2 H F3 O2



1 REFERENCES IN FILE CA (1967 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 86:189975 Cephalosporin compounds. Yoshioka, Mitsuru;  
 Murakami, Masayuki; Sendo, Yuji; Miyazaki, Sadao; Ishikura, Koji  
 (Shionogi  
 and Co., Ltd., Japan). U.S. US 3997528 19761214, 23 pp. (English).  
 CODEN: USXXAM. PRIORITY: JP 1973-12032 19731025.

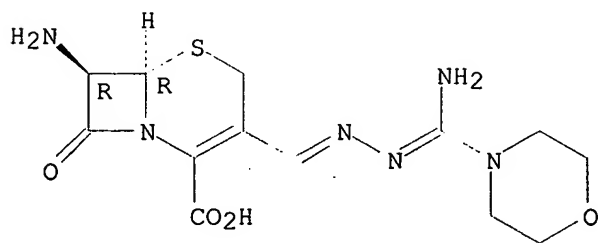
GI



AB The antibacterial (no data) (guanyldiazono)cephalosporins I (R, R1, R2  
 = alkyl, alkenyl, aralkyl, aryl; NH2, MeO; NR1R2 = N-heterocyclic, i.e.  
 morpholino, piperidino; RR1 = CH2CH2; R3 = H, thienylacetyl, PhOCH2CO,  
 H2NCHPhCO, PhCH2CO, furylacetyl, tetrazolylacetyl, Me3CCO2C, Cl3CCH2O2C;  
 R4 = H; n = 1, 0) and their salts were prepd. by treating the hemiacetal  
 lactones II with H2NNHC(NR1R2):NR (III). I (R4 = 4-O2NC6H4CH2, Ph2CH,  
 Me)  
 were prepd. by treating 3-formylcephem-4-carboxylates with III.

L3 ANSWER 84 OF 148 REGISTRY COPYRIGHT 2000 ACS  
 RN 62766-39-6 REGISTRY  
 CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,  
 7-amino-3-[[[(imino-4-morpholinylmethyl)hydrazono]methyl]-8-oxo-, (6R,7R)-  
 (9CI) (CA INDEX NAME)  
 OTHER CA INDEX NAMES:  
 CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,  
 7-amino-3-[[[(imino-4-morpholinylmethyl)hydrazono]methyl]-8-oxo-,  
 (6R-trans)-  
 FS STEREOSEARCH  
 MF C13 H18 N6 O4 S  
 CI COM  
 LC STN Files: BEILSTEIN\*  
 (\*File contains numerically searchable property data)

Absolute stereochemistry.  
 Double bond geometry unknown.



L3 ANSWER 85 OF 148 REGISTRY COPYRIGHT 2000 ACS  
 RN 62733-47-5 REGISTRY  
 CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,  
 3-[[[(dihydro-2H-1,3-oxazin-3(4H)-yl)iminomethyl]hydrazono]methyl]-7-  
 Prepared by M. Hale 308-4258 Page 188

[[[(1,1-dimethylethoxy)carbonyl]amino]phenylacetyl]amino]-8-oxo-,  
[6R-(6.alpha.,7.beta.)]- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN 2H-1,3-Oxazine, 5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid  
deriv.

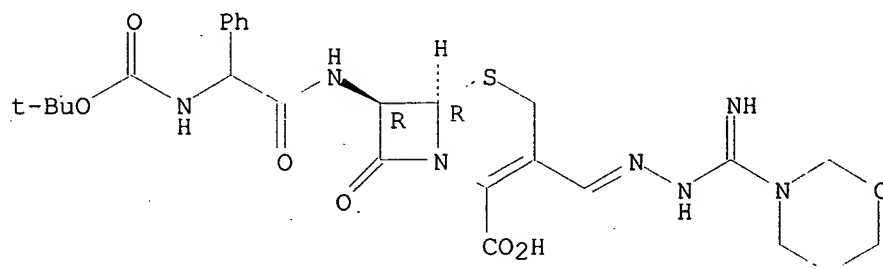
FS STEREOSEARCH

MF C26 H33 N7 O7 S

LC STN Files: BEILSTEIN\*, CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL  
(\*File contains numerically searchable property data)

Absolute stereochemistry.

Double bond geometry unknown.

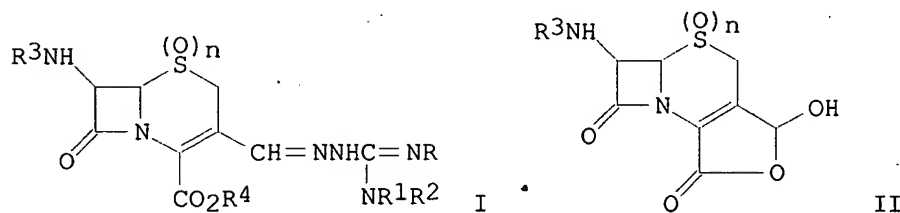


1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 86:189975 Cephalosporin compounds. Yoshioka, Mitsuru;  
Murakami, Masayuki; Sendo, Yuji; Miyazaki, Sadao; Ishikura, Koji  
(Shionogi  
and Co., Ltd., Japan). U.S. US 3997528 19761214, 23 pp. (English).  
CODEN: USXXAM. PRIORITY: JP 1973-12032 19731025.

GI



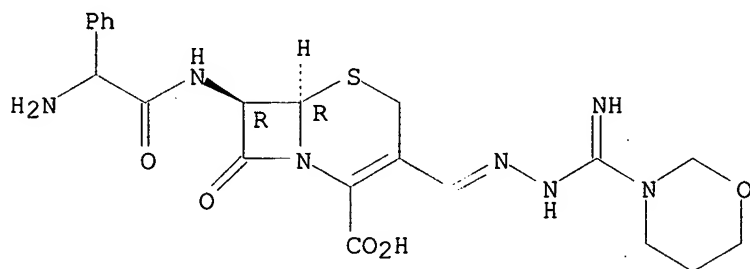
AB The antibacterial (no data) (guanyldihydrazono)cephalosporins I (R, R1, R2  
= alkyl, alkenyl, aralkyl, aryl, NH2, MeO; NR1R2 = N-heterocyclic, i.e.  
morpholino, piperidino; RR1 = CH2CH2; R3 = H, thienylacetyl, PhOCH2CO,  
H2NCHPhCO, PhCH2CO, furylacetyl, tetrazolylacetyl, Me3CCO2C, Cl3CCH2O2C;  
R4 = H; n = 1, 0) and their salts were prepd. by treating the hemiacetal  
lactones II with H2NNHC(NR1R2):NR (III). I (R4 = 4-O2NC6H4CH2, Ph2CH,  
Me)  
were prepd. by treating 3-formylcephem-4-carboxylates with III.

Prepared by M. Hale 308-4258

Page 189

L3 ANSWER 86 OF 148 REGISTRY COPYRIGHT 2000 ACS  
 RN 62733-46-4 REGISTRY  
 CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,  
 7-[(aminophenylacetyl)amino]-3-[[[(dihydro-2H-1,3-oxazin-3(4H)-  
 yl)iminomethyl]hydrazono]methyl]-8-oxo-, [6R-(6.alpha.,7.beta.)]- (9CI)  
 (CA INDEX NAME)  
 OTHER CA INDEX NAMES:  
 CN 2H-1,3-Oxazine, 5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid  
 deriv.  
 FS STEREOSEARCH  
 MF C21 H25 N7 O5 S  
 CI COM  
 LC STN Files: BEILSTEIN\*, CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL  
 (\*File contains numerically searchable property data)

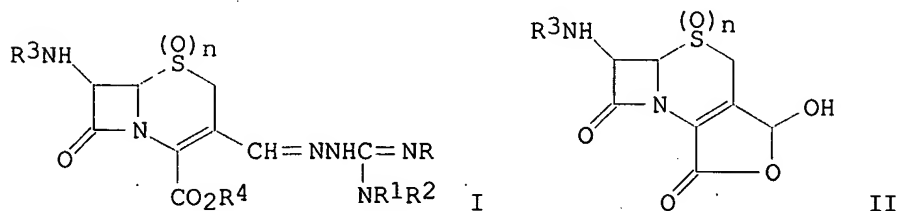
Absolute stereochemistry.  
 Double bond geometry unknown.



1 REFERENCES IN FILE CA (1967 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 86:189975 Cephalosporin compounds. Yoshioka, Mitsuru;  
 Murakami, Masayuki; Sendo, Yuji; Miyazaki, Sadao; Ishikura, Koji  
 (Shionogi  
 and Co., Ltd., Japan). U.S. US 3997528 19761214, 23 pp. (English).  
 CODEN: USXXAM. PRIORITY: JP 1973-12032 19731025.

GI



AB The antibacterial (no data) (guanylhiazono)cephalosporins I (R, R1, R2  
 = alkyl, alkenyl, aralkyl, aryl, NH2, MeO; NR1R2 = N-heterocyclic, i.e.  
 Prepared by M. Hale 308-4258 Page 190

morpholino, piperidino; RR1 = CH2CH2; R3 = H, thienylacetyl, PhOCH2CO, H2NCHPhCO, PhCH2CO, furylacetyl, tetrazolylacetyl, Me3CCO2C, Cl3CCH2O2C; R4 = H; n = 1, 0) and their salts were prepd. by treating the hemiacetal lactones II with H2NNHC(NR1R2):NR (III). I (R4 = 4-O2NC6H4CH2, Ph2CH,

Me)

were prepd. by treating 3-formylcephem-4-carboxylates with III.

L3 ANSWER 87 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 62733-45-3 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-(1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)-3-[[[(dihydro-2H-1,3-oxazin-3(4H)-yl)iminomethyl]hydrazono]methyl]-8-oxo-, methyl ester, 5-oxide, [6R-(6.alpha.,7.beta.)]- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN 2H-1,3-Oxazine, 5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid deriv.

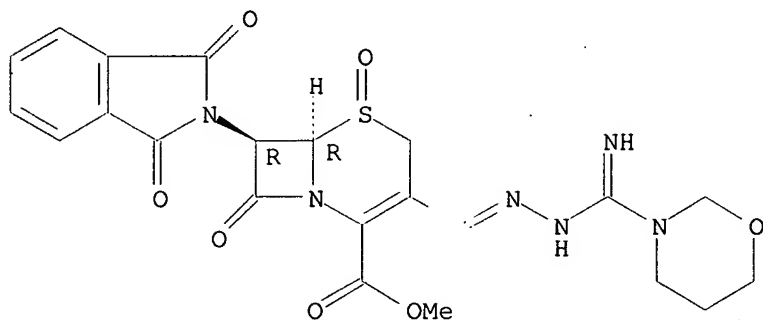
FS STEREOSEARCH

MF C22 H22 N6 O7 S

LC STN Files: CA, CAPLUS, IFICDB, IFIPAT, IFIUIDB, USPATFULL

Absolute stereochemistry.

Double bond geometry unknown.

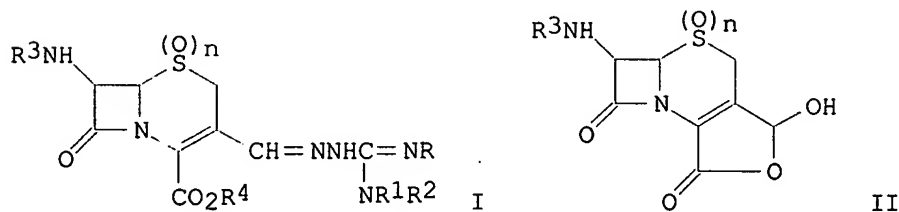


1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 86:189975 Cephalosporin compounds. Yoshioka, Mitsuru; Murakami, Masayuki; Sendo, Yuji; Miyazaki, Sadao; Ishikura, Koji (Shionogi and Co., Ltd., Japan). U.S. US 3997528 19761214, 23 pp. (English). CODEN: USXXAM. PRIORITY: JP 1973-12032 19731025.

GI



Prepared by M. Hale 308-4258

Page 191

AB The antibacterial (no data) (guanylhyaazono)cephalosporins I (R, R1, R2  
 = alkyl, alkenyl, aralkyl, aryl, NH2, MeO; NR1R2 = N-heterocyclic, i.e.  
 morpholino, piperidino; RR1 = CH2CH2; R3 = H, thienylacetyl, PhOCH2CO,  
 H2NCHPhCO, PhCH2CO, furylacetyl, tetrazolylacetyl, Me3CCO2C, Cl3CCH2O2C;  
 R4 = H; n = 1, 0) and their salts were prepd. by treating the hemiacetal  
 lactones II with H2NNHC(NR1R2):NR (III). I (R4 = 4-O2NC6H4CH2, Ph2CH,  
 Me)  
 were prepd. by treating 3-formylcephem-4-carboxylates with III.

L3 ANSWER 88 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 62733-44-2 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,

3-[[[(dihydro-2H-1,3-oxazin-3(4H)-yl)iminomethyl]hydrazone]methyl]-8-oxo-7-  
 [(2-thienylacetyl)amino]-, diphenylmethyl ester, (6R-trans)- (9CI) (CA  
 INDEX NAME)

OTHER CA INDEX NAMES:

CN 2H-1,3-Oxazine, 5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid  
 deriv.

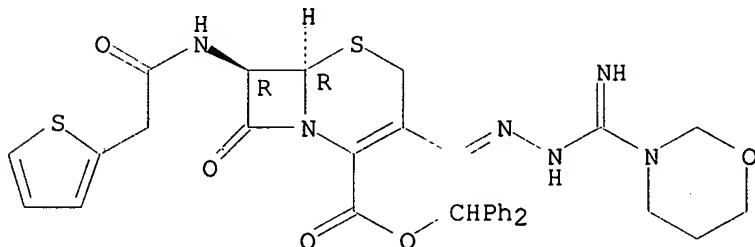
FS STEREOSEARCH

MF C32 H32 N6 O5 S2

LC STN Files: BEILSTEIN\*, CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL  
 (\*File contains numerically searchable property data)

Absolute stereochemistry.

Double bond geometry unknown.

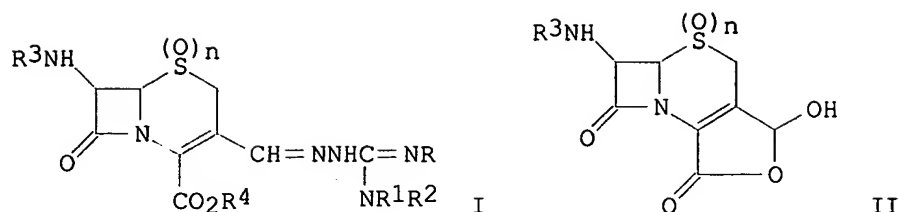


1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 86:189975 Cephalosporin compounds. Yoshioka, Mitsuru;  
 Murakami, Masayuki; Sendo, Yuji; Miyazaki, Sadao; Ishikura, Koji  
 (Shionogi  
 and Co., Ltd., Japan). U.S. US 3997528 19761214, 23 pp. (English).  
 CODEN: USXXAM. PRIORITY: JP 1973-12032 19731025.

GI



AB The antibacterial (no data) (guanyldiazono)cephalosporins I (R, R1, R2  
 = alkyl, alkenyl, aralkyl, aryl, NH2, MeO; NR1R2 = N-heterocyclic, i.e.  
 morpholino, piperidino; RR1 = CH2CH2; R3 = H, thienylacetyl, PhOCH2CO,  
 H2NCHPhCO, PhCH2CO, furylacetyl, tetrazolylacetyl, Me3CCO2C, Cl3CCH2O2C;  
 R4 = H; n = 1, 0) and their salts were prepd. by treating the hemiacetal  
 lactones II with H2NNHC(NR1R2):NR (III). I (R4 = 4-O2NC6H4CH2, Ph2CH,  
 Me)  
 were prepd. by treating 3-formylcephem-4-carboxylates with III.

L3 ANSWER 89 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 62733-43-1 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,

3-[[[(dihydro-2H-1,3-oxazin-3(4H)-yl)iminomethyl]hydrazono]methyl]-8-oxo-7-  
 [(2-thienylacetyl)amino]-, monosodium salt, (6R-trans)- (9CI) (CA INDEX  
 NAME)

OTHER CA INDEX NAMES:

CN 2H-1,3-Oxazine, 5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid  
 deriv.

FS STEREOSEARCH

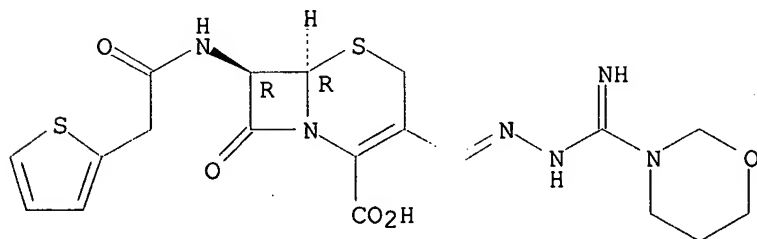
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LC STN Files: CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL

CRN (62733-24-8)

Absolute stereochemistry.

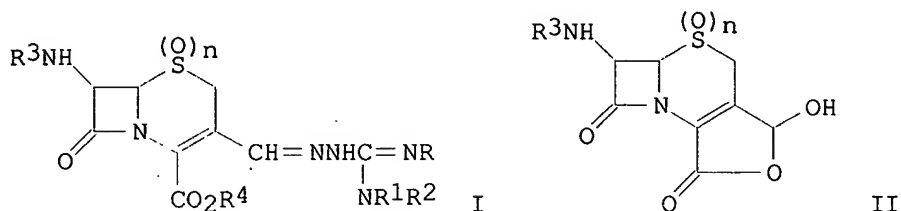
Double bond geometry unknown.



1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 86:189975 Cephalosporin compounds. Yoshioka, Mitsuru; Murakami, Masayuki; Sendo, Yuji; Miyazaki, Sadao; Ishikura, Koji (Shionogi and Co., Ltd., Japan). U.S. US 3997528 19761214, 23 pp. (English). CODEN: USXXAM. PRIORITY: JP 1973-12032 19731025.

GI



AB The antibacterial (no data) (guanidylhydrazone)cephalosporins I (R, R1, R2 = alkyl, alkenyl, aralkyl, aryl, NH2, MeO; NR1R2 = N-heterocyclic, i.e. morpholino, piperidino; RR1 = CH2CH2; R3 = H, thienylacetyl, PhOCH2CO, H2NCHPhCO, PhCH2CO, furylacetyl, tetrazolylacetyl, Me3CCO2C, Cl3CCH2O2C; R4 = H; n = 1, 0) and their salts were prepd. by treating the hemiacetal lactones II with H2NNHC(NR1R2):NR (III). I (R4 = 4-O2NC6H4CH2, Ph2CH, Me) were prepd. by treating 3-formylcephem-4-carboxylates with III.

L3 ANSWER 90 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 62733-42-0 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,

7-amino-3-[[[(dihydro-2H-1,3-oxazin-3(4H)-yl)iminomethyl]hydrazono]methyl]-8-oxo-, (6R-trans)-, bis(trifluoroacetate) (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN 2H-1,3-Oxazine, 5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid deriv.

CN Acetic acid, trifluoro-, compd. with (6R-trans)-7-amino-3-[[[(dihydro-2H-1,3-oxazin-3(4H)-yl)iminomethyl]hydrazono]methyl]-8-oxo-5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid (2:1)

FS STEREOSEARCH

MF C13 H18 N6 O4 S . 2 C2 H F3 O2

LC STN Files: CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL

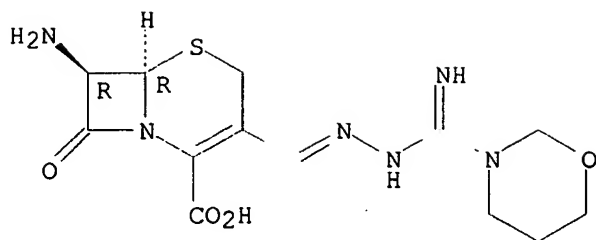
CM 1

CRN 62733-38-4

CMF C13 H18 N6 O4 S

Absolute stereochemistry.

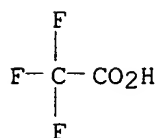
Double bond geometry unknown.



CM 2

CRN 76-05-1

CMF C2 H F3 O2

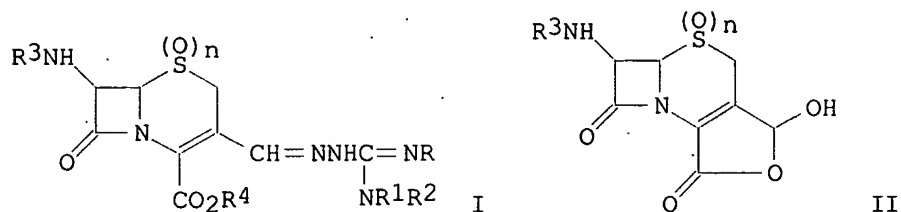


1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 86:189975 Cephalosporin compounds. Yoshioka, Mitsuru; Murakami, Masayuki; Sendo, Yuji; Miyazaki, Sadao; Ishikura, Koji (Shionogi and Co., Ltd., Japan). U.S. US 3997528 19761214, 23 pp. (English). CODEN: USXXAM. PRIORITY: JP 1973-12032 19731025.

GI



AB The antibacterial (no data) (guanyldiazono)cephalosporins I (R, R1, R2

=

alkyl, alkenyl, aralkyl, aryl, NH2, MeO; NR1R2 = N-heterocyclic, i.e. morpholino, piperidino; RR1 = CH2CH2; R3 = H, thienylacetyl, PhOCH2CO, H2NCHPhCO, PhCH2CO, furylacetyl, tetrazolylacetyl, Me3CCO2C, Cl3CCH2O2C; R4 = H; n = 1, 0) and their salts were prepd. by treating the hemiacetal lactones II with H2NNHC(NR1R2):NR (III). I (R4 = 4-O2NC6H4CH2, Ph2CH,

Me)

Prepared by M. Hale 308-4258

Page 195

were prepd. by treating 3-formylcephem-4-carboxylates with III.

L3 ANSWER 91 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 62733-41-9 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,

7-amino-3-[[[(dihydro-2H-1,3-oxazin-3(4H)-yl)iminomethyl]hydrazono]methyl]-  
8-oxo-, (4-nitrophenyl)methyl ester, (6R-trans)- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN 2H-1,3-Oxazine, 5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid  
deriv.

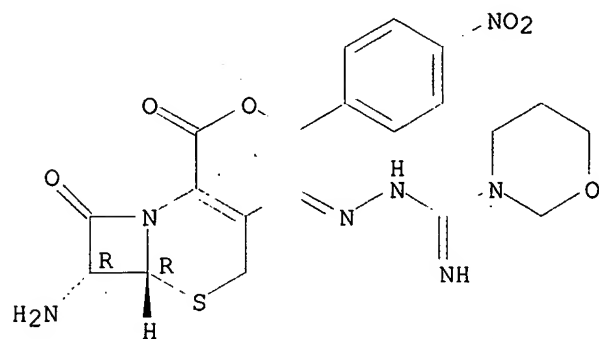
FS STEREOSEARCH

MF C20 H23 N7 O6 S

LC STN Files: BEILSTEIN\*, CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL  
(\*File contains numerically searchable property data)

Absolute stereochemistry.

Double bond geometry unknown.

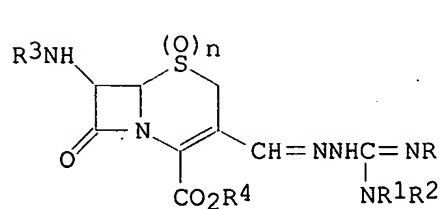


1 REFERENCES IN FILE CA (1967 TO DATE)

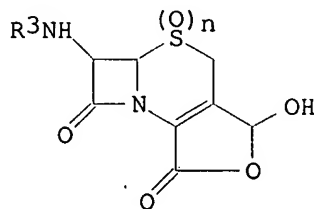
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 86:189975 Cephalosporin compounds. Yoshioka, Mitsuru;  
Murakami, Masayuki; Sendo, Yuji; Miyazaki, Sadao; Ishikura, Koji  
(Shionogi  
and Co., Ltd., Japan). U.S. US 3997528 19761214, 23 pp. (English).  
CODEN: USXXAM. PRIORITY: JP 1973-12032 19731025.

GI



I



II

AB The antibacterial (no data) (guanylhyaazono)cephalosporins I (R, R1, R2  
= Prepared by M. Hale 308-4258 Page 196

alkyl, alkenyl, aralkyl, aryl, NH<sub>2</sub>, MeO; NR<sub>1</sub>R<sub>2</sub> = N-heterocyclic, i.e. morpholino, piperidino; RR<sub>1</sub> = CH<sub>2</sub>CH<sub>2</sub>; R<sub>3</sub> = H, thienylacetyl, PhOCH<sub>2</sub>CO, H<sub>2</sub>NCHPhCO, PhCH<sub>2</sub>CO, furylacetyl, tetrazolylacetyl, Me<sub>3</sub>CCO<sub>2</sub>C, Cl<sub>3</sub>CCH<sub>2</sub>O<sub>2</sub>C; R<sub>4</sub> = H; n = 1, 0) and their salts were prepd. by treating the hemiacetal lactones II with H<sub>2</sub>NNHC(NR<sub>1</sub>R<sub>2</sub>):NR (III). I (R<sub>4</sub> = 4-O<sub>2</sub>NC<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>, Ph<sub>2</sub>CH,

Me)

were prepd. by treating 3-formylcephem-4-carboxylates with III.

L3 ANSWER 92 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 62733-40-8 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,

3-[[[(dihydro-2H-1,3-oxazin-3(4H)-yl)iminomethyl]hydrazono]methyl]-8-oxo-7-[(phenoxyacetyl)amino]-, (6R-trans)- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN 2H-1,3-Oxazine, 5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid deriv.

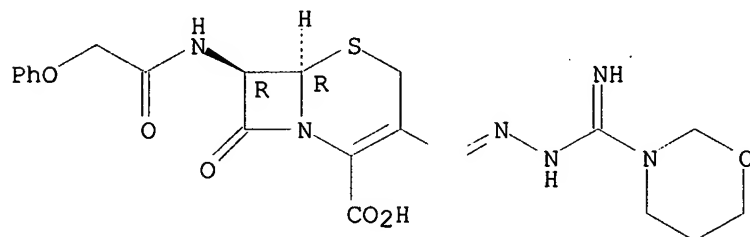
FS STEREOSEARCH

MF C21 H24 N6 O6 S

LC STN Files: CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL

Absolute stereochemistry.

Double bond geometry unknown.

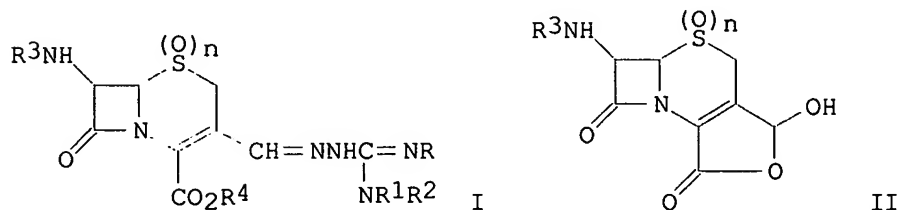


1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 86:189975 Cephalosporin compounds. Yoshioka, Mitsuru; Murakami, Masayuki; Sendo, Yuji; Miyazaki, Sadao; Ishikura, Koji (Shionogi and Co., Ltd., Japan). U.S. US 3997528 19761214, 23 pp. (English). CODEN: USXXAM. PRIORITY: JP 1973-12032 19731025.

GI



AB The antibacterial (no data) (guanylhyaazono)cephalosporins I (R, R1, R2  
 = alkyl, alkenyl, aralkyl, aryl, NH2, MeO; NR1R2 = N-heterocyclic, i.e.  
 morpholino, piperidino; RR1 = CH2CH2; R3 = H, thienylacetyl, PhOCH2CO,  
 H2NCHPhCO, PhCH2CO, furylacetyl, tetrazolylacetyl, Me3CCO2C, Cl3CCH2O2C;  
 R4 = H; n = 1, 0) and their salts were prepd. by treating the hemiacetal  
 lactones II with H2NNHC(NR1R2):NR (III). I (R4 = 4-O2NC6H4CH2, Ph2CH,  
 Me)  
 were prepd. by treating 3-formylcephem-4-carboxylates with III.

L3 ANSWER 93 OF 148 REGISTRY COPYRIGHT 2000 ACS  
 RN 62733-39-5 REGISTRY  
 CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,  
 7-(1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)-3-[[[(dihydro-2H-1,3-oxazin-  
 3(4H)-yl)iminomethyl]hydrazono]methyl]-8-oxo-, (6R-trans)- (9CI) (CA  
 INDEX NAME)

OTHER CA INDEX NAMES:

CN 2H-1,3-Oxazine, 5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid  
 deriv.

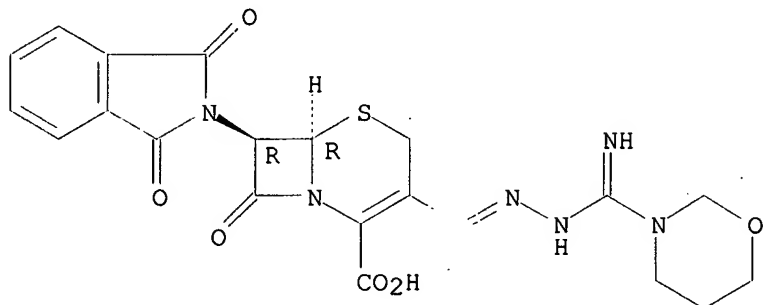
FS STEREOSEARCH

MF C21 H20 N6 O6 S

LC STN Files: CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL

Absolute stereochemistry.

Double bond geometry unknown.

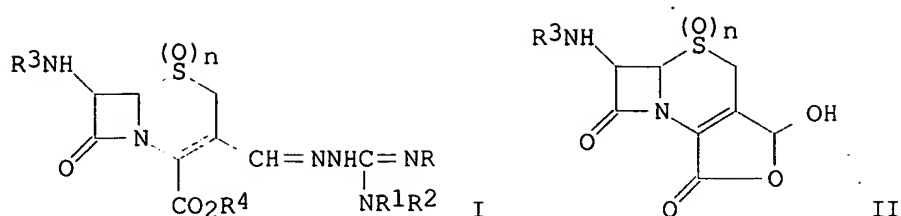


1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 86:189975 Cephalosporin compounds. Yoshioka, Mitsuru;  
 Murakami, Masayuki; Sendo, Yuji; Miyazaki, Sadao; Ishikura, Koji  
 (Shionogi  
 and Co., Ltd., Japan). U.S. US 3997528 19761214, 23 pp: (English).  
 CODEN: USXXAM. PRIORITY: JP 1973-12032 19731025.

GI



AB The antibacterial (no data) (guanylhyaazono)cephalosporins I (R, R1, R2  
= alkyl, alkenyl, aralkyl, aryl, NH2, MeO; NR1R2 = N-heterocyclic, i.e. morpholino, piperidino; RR1 = CH2CH2; R3 = H, thienylacetyl, PhOCH2CO, H2NCHPhCO, PhCH2CO, furylacetyl, tetrazolylacetyl, Me3CCO2C, Cl3CCH2O2C; R4 = H; n = 1, 0) and their salts were prepd. by treating the hemiacetal lactones II with H2NNHC(NR1R2):NR (III). I (R4 = 4-O2NC6H4CH2, Ph2CH, Me) were prepd. by treating 3-formylcephem-4-carboxylates with III.

L3 ANSWER 94 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 62733-38-4 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,

7-amino-3-[[[(dihydro-2H-1,3-oxazin-3(4H)-yl)iminomethyl]hydrazono]methyl]-8-oxo-, (6R-trans)- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN 2H-1,3-Oxazine, 5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid deriv.

FS STEREOSEARCH

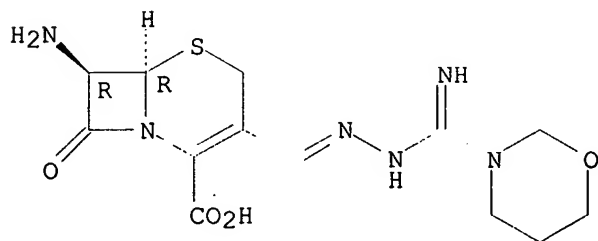
MF C13 H18 N6 O4 S

CI COM

LC STN Files: CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL

Absolute stereochemistry.

Double bond geometry unknown.



1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

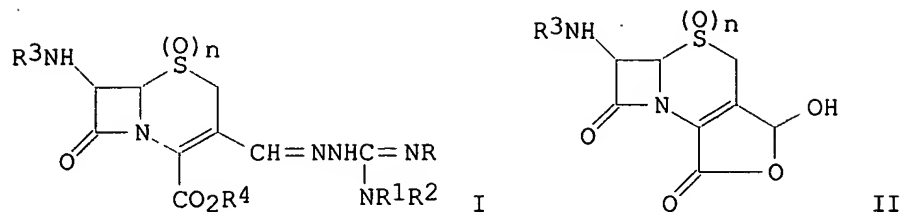
REFERENCE 1: 86:189975 Cephalosporin compounds. Yoshioka, Mitsuru; Murakami, Masayuki; Sendo, Yuji; Miyazaki, Sadao; Ishikura, Koji (Shionogi

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Page 199

and Co., Ltd., Japan). U.S. US 3997528 19761214, 23 pp. (English).  
 CODEN: USXXAM. PRIORITY: JP 1973-12032 19731025.

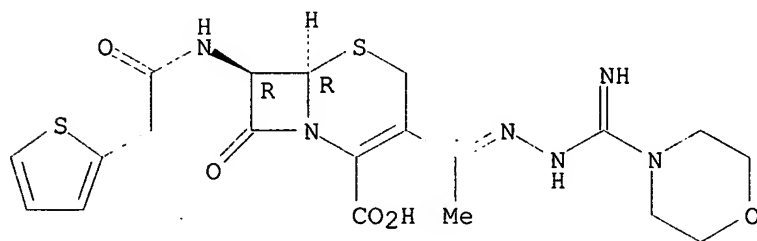
GI



AB The antibacterial (no data) (guanyldiazono)cephalosporins I (R, R1, R2  
 = alkyl, alkenyl, aralkyl, aryl, NH2, MeO; NR1R2 = N-heterocyclic, i.e. morpholino, piperidino; RR1 = CH2CH2; R3 = H, thienylacetyl, PhOCH2CO, H2NCHPhCO, PhCH2CO, furylacetyl, tetrazolylacetyl, Me3CCO2C, Cl3CCCH2O2C; R4 = H; n = 1, 0) and their salts were prepd. by treating the hemiacetal lactones II with H2NNHC(NR1R2):NR (III). I (R4 = 4-O2NC6H4CH2, Ph2CH, Me) were prepd. by treating 3-formylcephem-4-carboxylates with III.

L3 ANSWER 95 OF 148 REGISTRY COPYRIGHT 2000 ACS  
 RN 62733-36-2 REGISTRY  
 CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,  
 3-[1-[(imino-4-morpholinylmethyl)hydrazono]ethyl]-8-oxo-7-[(2-thienylacetyl)amino]-, (6R-trans)- (9CI) (CA INDEX NAME)  
 FS STEREOSEARCH  
 MF C20 H24 N6 O5 S2  
 LC STN Files: CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL

Absolute stereochemistry.  
 Double bond geometry unknown.

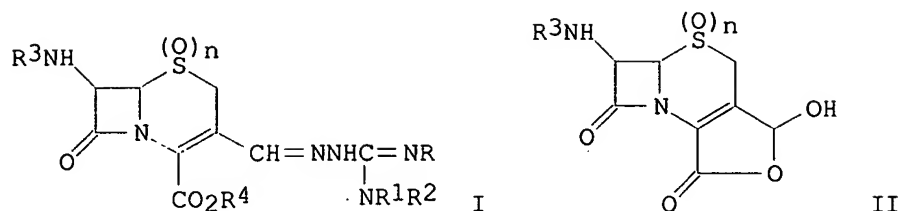


1 REFERENCES IN FILE CA (1967 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 86:189975 Cephalosporin compounds. Yoshioka, Mitsuru; Murakami, Masayuki; Sendo, Yuji; Miyazaki, Sadao; Ishikura, Koji (Shionogi and Co., Ltd., Japan). U.S. US 3997528 19761214, 23 pp. (English).  
 Prepared by M. Hale 308-4258 Page 200

CODEN: USXXAM. PRIORITY: JP 1973-12032 19731025.

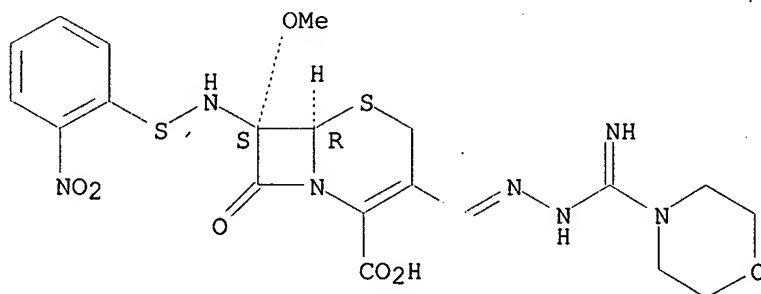
GI



AB The antibacterial (no data) (guanyldiazono)cephalosporins I (R, R1, R2  
= alkyl, alkenyl, aralkyl, aryl, NH2, MeO; NR1R2 = N-heterocyclic, i.e. morpholino, piperidino; RR1 = CH2CH2; R3 = H, thienylacetyl, PhOCH2CO, H2NCHPhCO, PhCH2CO, furylacetyl, tetrazolylacetyl, Me3CCO2C, Cl3CCH2O2C; R4 = H; n = 1, 0) and their salts were prepd. by treating the hemiacetal lactones II with H2NNHC(NR1R2):NR (III). I (R4 = 4-O2NC6H4CH2, Ph2CH, Me) were prepd. by treating 3-formylcephem-4-carboxylates with III.

L3 ANSWER 96 OF 148 REGISTRY COPYRIGHT 2000 ACS  
RN 62733-35-1 REGISTRY  
CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,  
3-[[[(imino-4-morpholinylmethyl)hydrazono]methyl]-7-methoxy-7-[[2-nitrophenyl]thio]amino]-8-oxo-, (6R-cis)- (9CI) (CA INDEX NAME)  
FS STEREOSEARCH  
MF C20 H23 N7 O7 S2  
LC STN Files: CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL

Absolute stereochemistry.  
Double bond geometry unknown.



1 REFERENCES IN FILE CA (1967 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

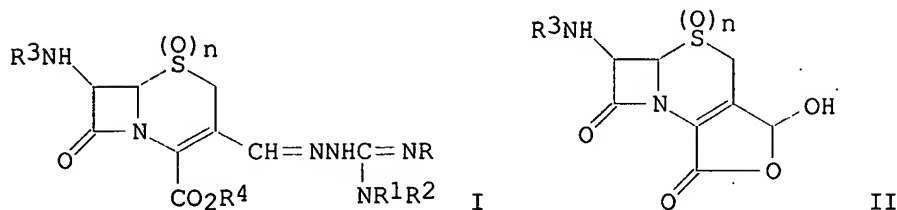
REFERENCE 1: 86:189975 Cephalosporin compounds. Yoshioka, Mitsuru; Murakami, Masayuki; Sendo, Yuji; Miyazaki, Sadao; Ishikura, Koji (Shionogi)

Prepared by M. Hale 308-4258

Page 201

and Co., Ltd., Japan). U.S. US 3997528 19761214, 23 pp. (English).  
 CODEN: USXXAM. PRIORITY: JP 1973-12032 19731025.

GI



AB The antibacterial (no data) (guanyldiazono)cephalosporins I (R, R1, R2  
 = alkyl, alkenyl, aralkyl, aryl, NH2, MeO; NR1R2 = N-heterocyclic, i.e. morpholino, piperidino; RR1 = CH2CH2; R3 = H, thienylacetyl, PhOCH2CO, H2NCHPhCO, PhCH2CO, furylacetyl, tetrazolylacetyl, Me3CCO2C, Cl3CCH2O2C; R4 = H; n = 1, 0) and their salts were prepd. by treating the hemiacetal lactones II with H2NNHC(NR1R2):NR (III). I (R4 = 4-O2NC6H4CH2, Ph2CH, Me) were prepd. by treating 3-formylcephem-4-carboxylates with III.

L3 ANSWER 97 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 62733-34-0 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 3-[[[(imino-4-morpholinylmethyl)hydrazono]methyl]-8-oxo-7-[[[(2,2,2-trichloroethoxy)carbonyl]amino]-, (6R-trans)- (9CI) (CA INDEX NAME)

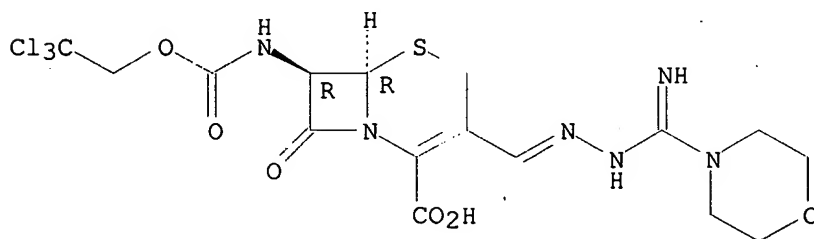
FS STEREOSEARCH

MF C16 H19 Cl3 N6 O6 S

CI COM

LC STN Files: BEILSTEIN\*, CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL.  
 (\*File contains numerically searchable property data)

Absolute stereochemistry.  
 Double bond geometry unknown.



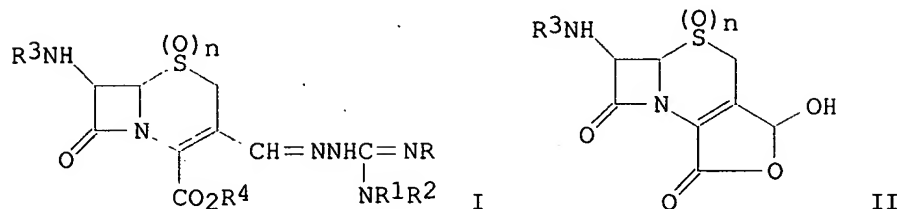
1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 86:189975 Cephalosporin compounds. Yoshioka, Mitsuru; Murakami, Masayuki; Sando, Yuji; Miyazaki, Sadao; Ishikura, Koji (Shionogi) Prepared by M. Hale 308-4258 Page 202

and Co., Ltd., Japan). U.S. US 3997528 19761214, 23 pp. (English).  
 CODEN: USXXAM. PRIORITY: JP 1973-12032 19731025.

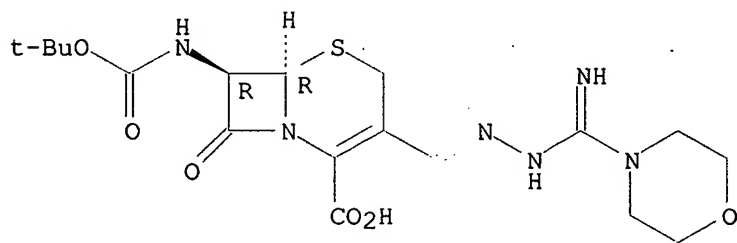
GI



AB The antibacterial (no data) (guanyldiazono)cephalosporins I (R, R1, R2  
 = alkyl, alkenyl, aralkyl, aryl, NH2, MeO; NR1R2 = N-heterocyclic, i.e. morpholino, piperidino; RR1 = CH2CH2; R3 = H, thienylacetyl, PhOCH2CO, H2NCHPhCO, PhCH2CO, furylacetyl, tetrazolylacetyl, Me3CCO2C, Cl3CCH2O2C; R4 = H; n = 1, 0) and their salts were prepd. by treating the hemiacetal lactones II with H2NNHC(NR1R2):NR (III). I (R4 = 4-O2NC6H4CH2, Ph2CH, Me) were prepd. by treating 3-formylcephem-4-carboxylates with III.

L3 ANSWER 98 OF 148. REGISTRY COPYRIGHT 2000 ACS  
 RN 62733-33-9 REGISTRY  
 CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[[(1,1-dimethylethoxy)carbonyl]amino]-3-[[[(imino-4-morpholinyl)methyl]hydrazono]methyl]-8-oxo-, (6R-trans)- (9CI) (CA INDEX NAME)  
 FS STEREOSEARCH  
 MF C18 H26 N6 O6 S  
 CI COM  
 LC STN Files: BEILSTEIN\*, CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL (\*File contains numerically searchable property data)

Absolute stereochemistry.  
 Double bond geometry unknown.

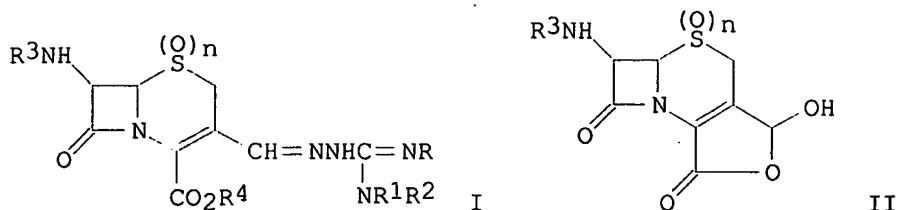


1 REFERENCES IN FILE CA (1967 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 86:189975 Cephalosporin compounds, Yoshioka, Mitsuru; Prepared by M. Hale 308-4258 Page 203

Murakami, Masayuki; Sendo, Yuji; Miyazaki, Sadao; Ishikura, Koji  
(Shionogi  
and Co., Ltd., Japan). U.S. US 3997528 19761214, 23 pp. (English).  
CODEN: USXXAM. PRIORITY: JP 1973-12032 19731025.

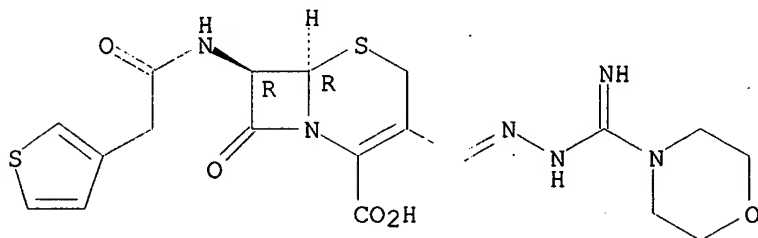
GI



AB The antibacterial (no data) (guanyldiazono)cephalosporins I (R, R1, R2  
= alkyl, alkenyl, aralkyl, aryl, NH2, MeO; NR1R2 = N-heterocyclic, i.e.  
morpholino, piperidino; RR1 = CH2CH2; R3 = H, thienylacetyl, PhOCH2CO,  
H2NCHPhCO, PhCH2CO, furylacetyl, tetrazolylacetyl, Me3CCO2C, Cl3CCH2O2C;  
R4 = H; n = 1, 0) and their salts were prepd. by treating the hemiacetal  
lactones II with H2NNHC(NR1R2):NR (III). I (R4 = 4-O2NC6H4CH2, Ph2CH,  
Me)  
were prepd. by treating 3-formylcephem-4-carboxylates with III.

L3 ANSWER 99 OF 148 REGISTRY COPYRIGHT 2000 ACS  
RN 62733-32-8 REGISTRY  
CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,  
3-[[[(imino-4-morpholinylmethyl)hydrazono]methyl]-8-oxo-7-[(3-  
thienylacetyl)amino]-, (6R-trans)- (9CI) (CA INDEX NAME)  
FS STEREOSEARCH  
MF C19 H22 N6 O5 S2  
CI COM  
LC STN Files: BEILSTEIN\*, CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL  
(\*File contains numerically searchable property data)

Absolute stereochemistry.  
Double bond geometry unknown.



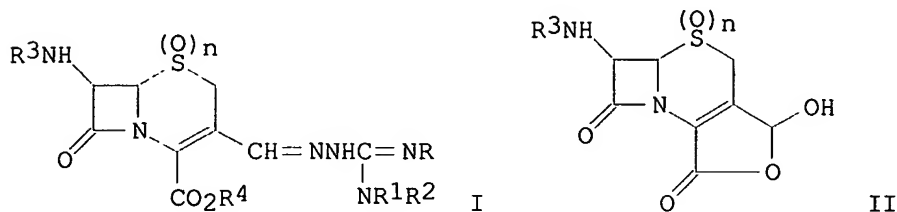
1 REFERENCES IN FILE CA (1967 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

Prepared by M. Hale 308-4258

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REFERENCE 1: 86:189975 Cephalosporin compounds. Yoshioka, Mitsuru; Murakami, Masayuki; Sendo, Yuji; Miyazaki, Sadao; Ishikura, Koji (Shionogi and Co., Ltd., Japan). U.S. US 3997528 19761214, 23 pp. (English). CODEN: USXXAM. PRIORITY: JP 1973-12032 19731025.

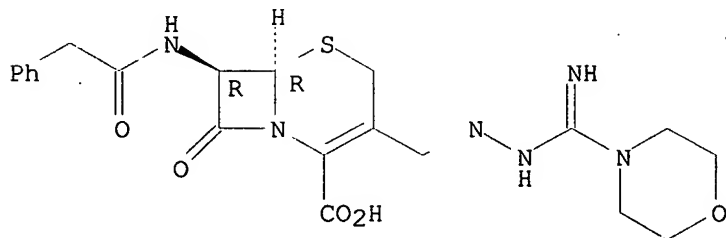
GI



AB The antibacterial (no data) (guanylhyaazono)cephalosporins I (R, R1, R2 = alkyl, alkenyl, aralkyl, aryl, NH2, MeO; NR1R2 = N-heterocyclic, i.e. morpholino, piperidino; RR1 = CH2CH2; R3 = H, thienylacetyl, PhOCH2CO, H2NCHPhCO, PhCH2CO, furylacetyl, tetrazolylacetyl, Me3CCO2C, Cl3CCH2O2C; R4 = H; n = 1, 0) and their salts were prepd. by treating the hemiacetal lactones II with H2NNHC(NR1R2):NR (III). I (R4 = 4-O2NC6H4CH2, Ph2CH, Me) were prepd. by treating 3-formylcephem-4-carboxylates with III.

L3 ANSWER 100 OF 148 REGISTRY COPYRIGHT 2000 ACS  
 RN 62733-31-7 REGISTRY  
 CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 3-[[[(imino-4-morpholinylmethyl)hydrazono]methyl]-8-oxo-7-[(phenylacetyl)amino]-, hydrobromide (2:1), (6R-trans)- (9CI) (CA INDEX NAME)  
 FS STEREOSEARCH  
 MF C21 H24 N6 O5 S . 1/2 Br H  
 LC STN Files: CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL

Absolute stereochemistry.  
 Double bond geometry unknown.



● 1/2 HBr

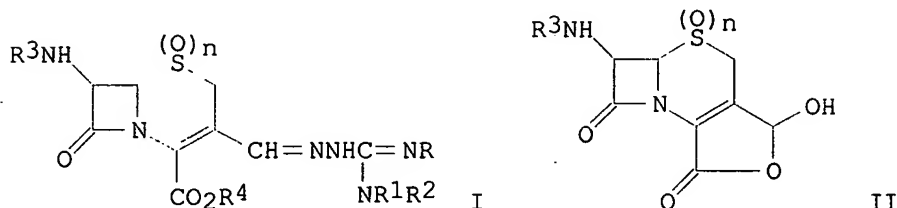
Prepared by M. Hale 308-4258

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1 REFERENCES IN FILE CA (1967 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 86:189975 Cephalosporin compounds. Yoshioka, Mitsuru; Murakami, Masayuki; Sendo, Yuji; Miyazaki, Sadao; Ishikura, Koji (Shionogi and Co., Ltd., Japan). U.S. US 3997528 19761214, 23 pp. (English). CODEN: USXXAM. PRIORITY: JP 1973-12032 19731025.

GI



AB The antibacterial (no data) (guanyldiazono)cephalosporins I (R, R1, R2 = alkyl, alkenyl, aralkyl, aryl, NH2, MeO; NR1R2 = N-heterocyclic, i.e. morpholino, piperidino; RR1 = CH2CH2; R3 = H, thienylacetyl, PhOCH2CO, H2NCHPhCO, PhCH2CO, furylacetyl, tetrazolylacetyl, Me3CCO2C, Cl3CCH2O2C; R4 = H; n = 1, 0) and their salts were prepd. by treating the hemiacetal lactones II with H2NNHC(NR1R2):NR (III). I (R4 = 4-O2NC6H4CH2, Ph2CH, Me) were prepd. by treating 3-formylcephem-4-carboxylates with III.

L3 ANSWER 101 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 62733-30-6 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,

7-[[[(1,1-dimethylethoxy)carbonyl]amino]phenylacetyl]amino]-3-[[[imino-4-morpholinylmethyl]hydrazono]methyl]-8-oxo-, [6R-(6.alpha.,7.beta.)]-(9CI)

(CA INDEX NAME)

FS STEREOSEARCH

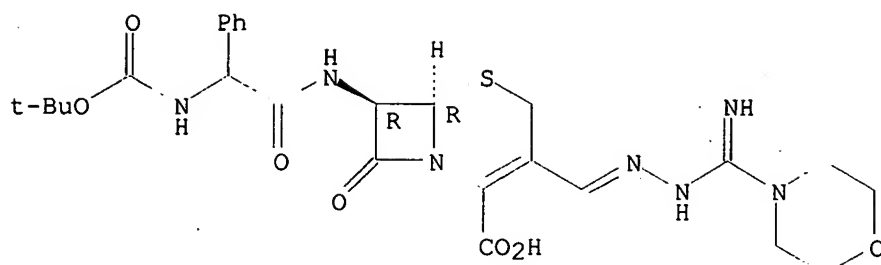
MF C26 H33 N7 O7 S

CI COM

LC STN Files: BEILSTEIN\*, CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL  
(\*File contains numerically searchable property data)

Absolute stereochemistry.

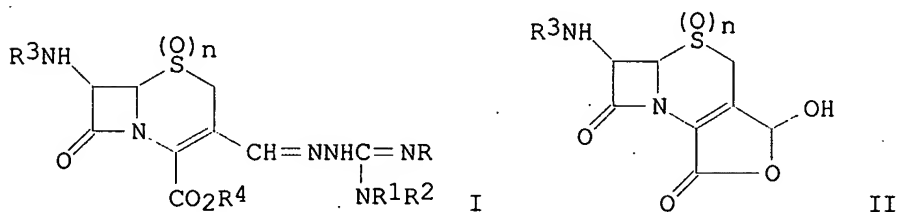
Double bond geometry unknown.



1 REFERENCES IN FILE CA (1967 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 86:189975 Cephalosporin compounds. Yoshioka, Mitsuru; Murakami, Masayuki; Sendo, Yuji; Miyazaki, Sadao; Ishikura, Koji (Shionogi and Co., Ltd., Japan). U.S. US 3997528 19761214, 23 pp. (English). CODEN: USXXAM. PRIORITY: JP 1973-12032 19731025.

GI



AB The antibacterial (no data) (guanyldiazono)cephalosporins I (R, R1, R2  
= alkyl, alkenyl, aralkyl, aryl, NH2, MeO; NR1R2 = N-heterocyclic, i.e. morpholino, piperidino; RR1 = CH2CH2; R3 = H, thienylacetyl, PhOCH2CO, H2NCHPhCO, PhCH2CO, furylacetyl, tetrazolylacetyl, Me3CCO2C, Cl3CCH2O2C; R4 = H; n = 1, 0) and their salts were prepd. by treating the hemiacetal lactones II with H2NNHC(NR1R2):NR (III). I (R4 = 4-O2NC6H4CH2, Ph2CH, Me) were prepd. by treating 3-formylcephem-4-carboxylates with III.

L3 ANSWER 102 OF 148 REGISTRY COPYRIGHT 2000 ACS  
RN 62733-29-3 REGISTRY  
CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,

7-[(aminophenylacetyl)amino]-3-[[[(imino-4-morpholinylmethyl)hydrazono]methyl]-8-oxo-, [6R-(6.alpha.,7.beta.)]- (9CI) (CA INDEX NAME)

FS STEREOSEARCH

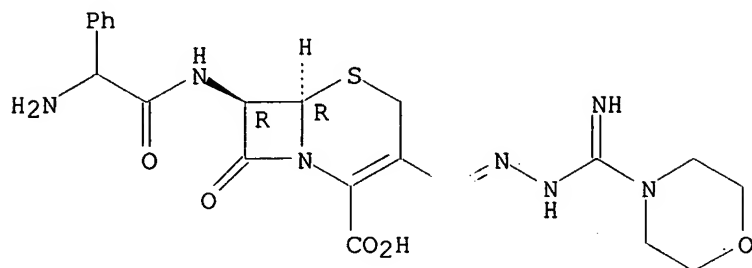
MF C21 H25 N7 O5 S

CI COM

LC STN Files: BEILSTEIN\*, CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL  
(\*File contains numerically searchable property data)  
Prepared by M. Hale 308-4258

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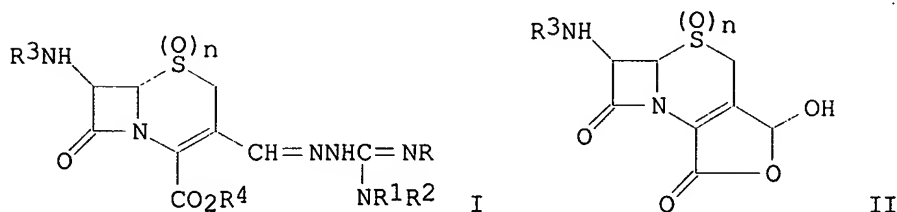
Absolute stereochemistry.  
Double bond geometry unknown.



1 REFERENCES IN FILE CA (1967 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 86:189975 Cephalosporin compounds. Yoshioka, Mitsuru; Murakami, Masayuki; Sendo, Yuji; Miyazaki, Sadao; Ishikura, Koji (Shionogi and Co., Ltd., Japan). U.S. US 3997528 19761214, 23 pp. (English). CODEN: USXXAM. PRIORITY: JP 1973-12032 19731025.

GI



AB The antibacterial (no data) (guanyldiazono)cephalosporins I (R, R1, R2 = alkyl, alkenyl, aralkyl, aryl, NH2, MeO; NR1R2 = N-heterocyclic, i.e. morpholino, piperidino; RR1 = CH2CH2; R3 = H, thienylacetyl, PhOCH2CO, H2NCHPhCO, PhCH2CO, furylacetyl, tetrazolylacetyl, Me3CCO2C, Cl3CCH2O2C; R4 = H; n = 1, 0) and their salts were prepd. by treating the hemiacetal lactones II with H2NNHC(NR1R2):NR (III). I (R4 = 4-O2NC6H4CH2, Ph2CH, Me) were prepd. by treating 3-formylcephem-4-carboxylates with III.

L3 ANSWER 103 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 62733-28-2 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,

7-[[[(2,3-dihydro-1-methyl-1H-tetrazol-5-yl)thio]acetyl]amino]-3-[[[imino-4-morpholinylmethyl]hydrazono]methyl]-8-oxo-, (6R-trans)- (9CI) (CA

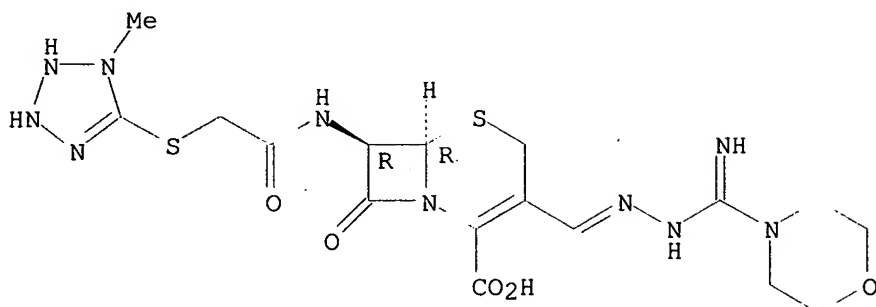
INDEX

NAME)



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Absolute stereochemistry.  
Double bond geometry unknown.



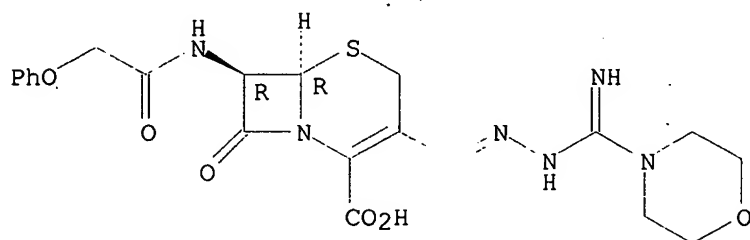
REFERENCE 1: 86:189975 Cephalosporin compounds. Yoshioka, Mitsuru;  
Murakami, Masayuki; Sendo, Yuji; Miyazaki, Sadao; Ishikura, Koji  
(Shionogi  
and Co., Ltd., Japan). U.S. US 3997528 19761214, 23 pp. (English).  
CODEN: USXXAM. PRIORITY: JP 1973-12032 19731025.

L3 ANSWER 104 OF 148 REGISTRY COPYRIGHT 2000 ACS  
RN 62733-27-1 REGISTRY  
CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,  
3-[[[(imino-4-morpholinyl)methyl]hydrazonolmethyl]-8-oxo-7-  
Prepared by M. Hale 308-4258

[(phenoxyacetyl)amino]-, (6R-trans)- (9CI) (CA INDEX NAME)  
 FS STEREOSEARCH  
 MF C21 H24 N6 O6 S  
 CI COM  
 LC STN Files: BEILSTEIN\*, CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL  
 (\*File contains numerically searchable property data)

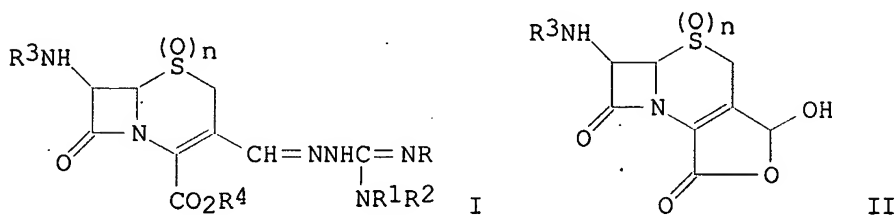
Absolute stereochemistry.  
 Double bond geometry unknown.



1 REFERENCES IN FILE CA (1967 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 86:189975 Cephalosporin compounds. Yoshioka, Mitsuru;  
 Murakami, Masayuki; Sendo, Yuji; Miyazaki, Sadao; Ishikura, Koji  
 (Shionogi  
 and Co., Ltd., Japan). U.S. US 3997528 19761214, 23 pp. (English).  
 CODEN: USXXAM. PRIORITY: JP 1973-12032 19731025.

GI



AB The antibacterial (no data) (guanylhyaazono)cephalosporins I (R, R1, R2  
 =  
 alkyl, alkenyl, aralkyl, aryl, NH2, MeO; NR1R2 = N-heterocyclic, i.e.  
 morpholino, piperidino; RR1 = CH2CH2; R3 = H, thienylacetyl, PhOCH2CO,  
 H2NCHPhCO, PhCH2CO, furylacetyl, tetrazolylacetyl, Me3CCO2C, Cl3CCH2O2C;  
 R4 = H; n = 1, 0) and their salts were prepd. by treating the hemiacetal  
 lactones II with H2NNHC(NR1R2):NR (III). I (R4 = 4-O2NC6H4CH2, Ph2CH,  
 Me)  
 were prepd. by treating 3-formylcephem-4-carboxylates with III.

L3 ANSWER 105 OF 148 REGISTRY COPYRIGHT 2000 ACS  
 RN 62733-26-0 REGISTRY  
 CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,  
 Prepared by M. Hale 308-4258

3-[[[(imino-4-thiomorpholinylmethyl)hydrazono]methyl]-8-oxo-7-[(2-thienylacetyl)amino]-, (6R-trans)- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Thiomorpholine, 5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid deriv.

FS STEREOSEARCH

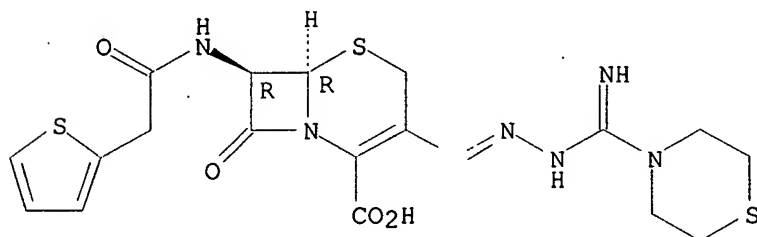
MF C19 H22 N6 O4 S3

CI COM

LC STN Files: BEILSTEIN\*, CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL  
(\*File contains numerically searchable property data)

Absolute stereochemistry.

Double bond geometry unknown.

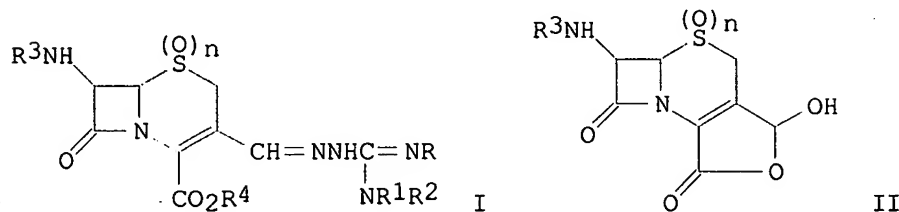


1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 86:189975 Cephalosporin compounds. Yoshioka, Mitsuru; Murakami, Masayuki; Sendo, Yuji; Miyazaki, Sadao; Ishikura, Koji (Shionogi and Co., Ltd., Japan). U.S. US 3997528 19761214, 23 pp. (English). CODEN: USXXAM. PRIORITY: JP 1973-12032 19731025.

GI



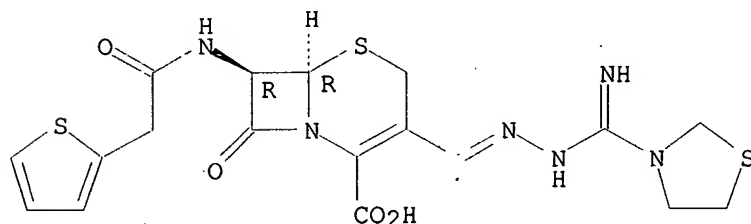
AB The antibacterial (no data) (guanyldiazono)cephalosporins I (R, R1, R2 = alkyl, alkenyl, aralkyl, aryl, NH2, MeO; NR1R2 = N-heterocyclic, i.e. morpholino, piperidino; RR1 = CH2CH2; R3 = H, thienylacetyl, PhOCH2CO, H2NCHPhCO, PhCH2CO, furylacetyl, tetrazolylacetyl, Me3CCO2C, Cl3CCCH2O2C; R4 = H; n = 1, 0) and their salts were prepd. by treating the hemiacetal lactones II with H2NNHC(NR1R2):NR (III). I (R4 = 4-O2NC6H4CH2, Ph2CH, Me) were prepd. by treating 3-formylcephem-4-carboxylates with III.

Prepared by M. Hale 308-4258

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L3 ANSWER 106 OF 148 REGISTRY COPYRIGHT 2000 ACS  
 RN 62733-25-9 REGISTRY  
 CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,  
 3-[[[(imino-3-thiazolidinylmethyl)hydrazono]methyl]-8-oxo-7-[(2-  
 thienylacetyl)amino]-, (6R-trans)- (9CI) (CA INDEX NAME)  
 FS STEREOSEARCH  
 MF C18 H20 N6 O4 S3  
 CI COM  
 LC STN Files: BEILSTEIN\*, CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL  
 (\*File contains numerically searchable property data)

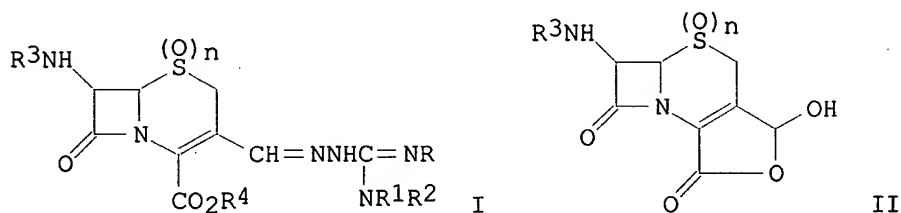
Absolute stereochemistry.  
 Double bond geometry unknown.



1 REFERENCES IN FILE CA (1967 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 86:189975 Cephalosporin compounds. Yoshioka, Mitsuru;  
 Murakami, Masayuki; Sendo, Yuji; Miyazaki, Sadao; Ishikura, Koji  
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 and Co., Ltd., Japan). U.S. US 3997528 19761214, 23 pp. (English).  
 CODEN: USXXAM. PRIORITY: JP 1973-12032 19731025.

GI



AB The antibacterial (no data) (guanylhiazono)cephalosporins I (R, R1, R2  
 =  
 alkyl, alkenyl, aralkyl, aryl, NH2, MeO; NR1R2 = N-heterocyclic, i.e.  
 morpholino, piperidino; RR1 = CH2CH2; R3 = H, thienylacetyl, PhOCH2CO,  
 H2NCHPhCO, PhCH2CO, furylacetyl, tetrazolylacetyl, Me3CCO2C, Cl3CCH2O2C;  
 R4 = H; n = 1, 0) and their salts were prepd. by treating the hemiacetal  
 lactones II with H2NNHC(NR1R2):NR (III). I (R4 = 4-O2NC6H4CH2, Ph2CH,  
 Me)  
 were prepd. by treating 3-formylcephem-4-carboxylates with III.

Prepared by M. Hale 308-4258

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L3 ANSWER 107 OF 148 REGISTRY COPYRIGHT 2000 ACS  
 RN 62733-24-8 REGISTRY  
 CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,

3-[[[(dihydro-2H-1,3-oxazin-3(4H)-yl)iminomethyl]hydrazono]methyl]-8-oxo-7-  
 [(2-thienylacetyl)amino]-, (6R-trans)- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN 2H-1,3-Oxazine, 5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid  
 deriv.

FS STEREOSEARCH

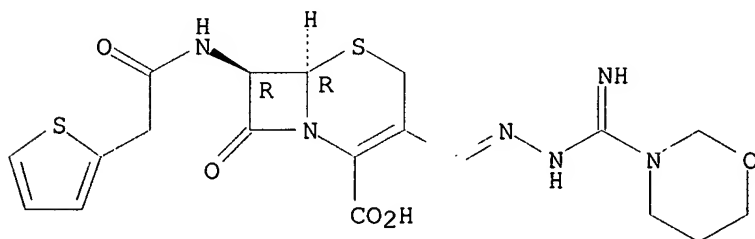
MF C19 H22 N6 O5 S2

CI COM

LC STN Files: BEILSTEIN\*, CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL  
 (\*File contains numerically searchable property data)

Absolute stereochemistry.

Double bond geometry unknown.

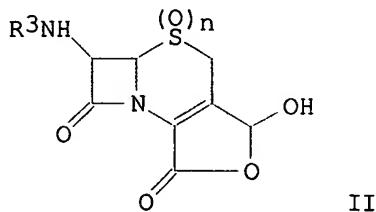
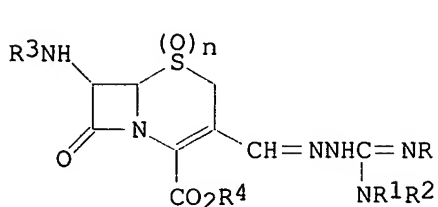


1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 86:189975 Cephalosporin compounds. Yoshioka, Mitsuru;  
 Murakami, Masayuki; Sendo, Yuji; Miyazaki, Sadao; Ishikura, Koji  
 (Shionogi  
 and Co., Ltd., Japan). U.S. US 3997528 19761214, 23 pp. (English).  
 CODEN: USXXAM. PRIORITY: JP 1973-12032 19731025.

GI



AB The antibacterial (no data) (guanylhyaazono)cephalosporins I (R, R1, R2

=

alkyl, alkenyl, aralkyl, aryl, NH2, MeO; NR1R2 = N-heterocyclic, i.e.  
 morpholino, piperidino; RR1 = CH2CH2; R3 = H, thienylacetyl, PhOCH2CO,  
 Prepared by M. Hale 308-4258

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H<sub>2</sub>NCHPhCO, PhCH<sub>2</sub>CO, furylacetyl, tetrazolylacetyl, Me<sub>3</sub>CCO<sub>2</sub>C, Cl<sub>3</sub>CCCH<sub>2</sub>O<sub>2</sub>C;  
R<sub>4</sub> = H; n = 1, 0) and their salts were prepd. by treating the hemiacetal  
lactones II with H<sub>2</sub>NNHC(NR<sub>1</sub>R<sub>2</sub>):NR (III). I (R<sub>4</sub> = 4-O<sub>2</sub>NC<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>, Ph<sub>2</sub>CH,

Me)

were prepd. by treating 3-formylcephem-4-carboxylates with III.

L3 ANSWER 108 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 62733-23-7 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,

3-[[[imino(tetrahydro-2H-1,2-oxazin-2-yl)methyl]hydrazono]methyl]-8-oxo-7-  
[(2-thienylacetyl)amino]-, (6R-trans)- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN 2H-1,2-Oxazine, 5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid  
deriv.

FS STEREOSEARCH

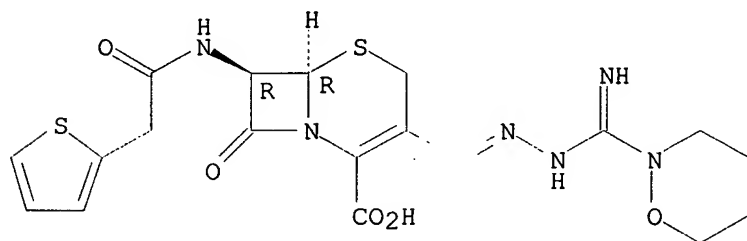
MF C19 H22 N6 O5 S2

CI COM

LC STN Files: BEILSTEIN\*, CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL  
(\*File contains numerically searchable property data)

Absolute stereochemistry.

Double bond geometry unknown.

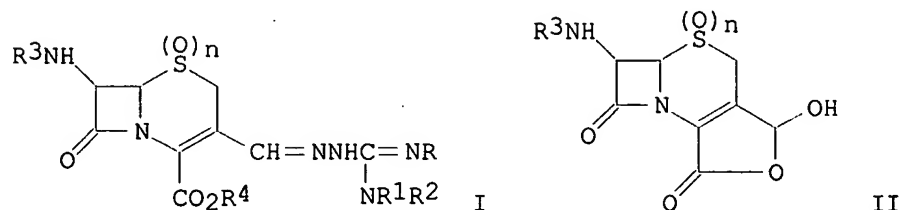


1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 86:189975 Cephalosporin compounds. Yoshioka, Mitsuru;  
Murakami, Masayuki; Sendo, Yuji; Miyazaki, Sadao; Ishikura, Koji  
(Shionogi  
and Co., Ltd., Japan). U.S. US 3997528 19761214, 23 pp. (English).  
CODEN: USXXAM. PRIORITY: JP 1973-12032 19731025.

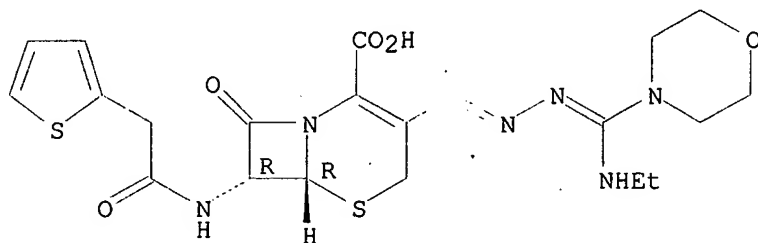
GI



AB The antibacterial (no data) (guanyldiazono)cephalosporins I (R, R1, R2 = alkyl, alkenyl, aralkyl, aryl, NH2, MeO; NR1R2 = N-heterocyclic, i.e. morpholino, piperidino; RR1 = CH2CH2; R3 = H, thienylacetyl, PhOCH2CO, H2NCHPhCO, PhCH2CO, furylacetyl, tetrazolylacetyl, Me3CCO2C, Cl3CCH2O2C; R4 = H; n = 1, 0) and their salts were prepd. by treating the hemiacetal lactones II with H2NNHC(NR1R2):NR (III). I (R4 = 4-O2NC6H4CH2, Ph2CH, Me) were prepd. by treating 3-formylcephem-4-carboxylates with III.

L3 ANSWER 109 OF 148 REGISTRY COPYRIGHT 2000 ACS  
 RN 62733-22-6 REGISTRY  
 CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 3-[[[(ethylamino)-4-morpholinylmethylene]hydrazono]methyl]-8-oxo-7-[(2-thienylacetyl)amino]-, hydriodide (2:1), (6R-trans)- (9CI) (CA INDEX NAME)  
 FS STEREOSEARCH  
 MF C21 H26 N6 O5 S2 . 1/2 H I  
 LC STN Files: CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL

Absolute stereochemistry.  
 Double bond geometry unknown.

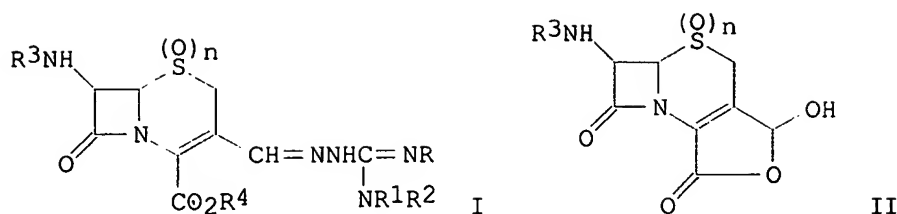


● 1/2 HI

1 REFERENCES IN FILE CA (1967 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 86:189975 Cephalosporin compounds. Yoshioka, Mitsuru; Murakami, Masayuki; Sendo, Yuji; Miyazaki, Sadao; Ishikura, Koji (Shionogi and Co., Ltd., Japan). U.S. US 3997528 19761214, 23 pp. (English). CODEN: USXXAM. PRIORITY: JP 1973-12032 19731025.

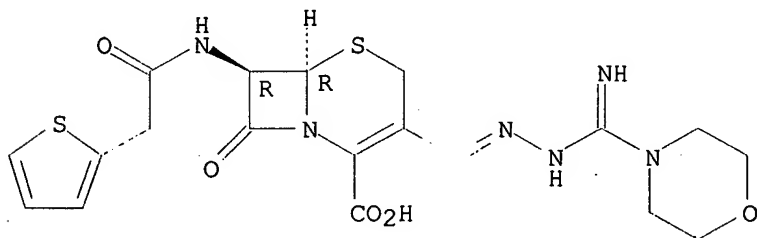
GI



AB The antibacterial (no data) (guanyldiazono)cephalosporins I (R, R1, R2  
 = alkyl, alkenyl, aralkyl, aryl, NH2, MeO; NR1R2 = N-heterocyclic, i.e.  
 morpholino, piperidino; RR1 = CH2CH2; R3 = H, thienylacetyl, PhOCH2CO,  
 H2NCHPhCO, PhCH2CO, furylacetyl, tetrazolylacetyl, Me3CCO2C, Cl3CCH2O2C;  
 R4 = H; n = 1, 0) and their salts were prepd. by treating the hemiacetal  
 lactones II with H2NNHC(NR1R2):NR (III). I (R4 = 4-O2NC6H4CH2, Ph2CH,  
 Me)  
 were prepd. by treating 3-formylcephem-4-carboxylates with III.

L3 ANSWER 110 OF 148 REGISTRY COPYRIGHT 2000 ACS  
 RN 62733-21-5 REGISTRY  
 CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,  
 3-[[[(imino-4-morpholinylmethyl)hydrazono]methyl]-8-oxo-7-[(2-  
 thienylacetyl)amino]-, hydriodide (2:1), (6R-trans)- (9CI) (CA INDEX  
 NAME)  
 FS STEREOSEARCH  
 MF C19 H22 N6 O5 S2 . 1/2 H I  
 LC STN Files: CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL  
 CRN (62733-20-4)

Absolute stereochemistry.  
 Double bond geometry unknown.



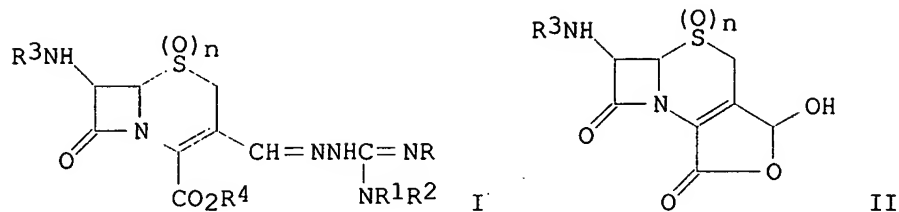
● 1/2 HI

1 REFERENCES IN FILE CA (1967 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 86:189975 Cephalosporin compounds. Yoshioka, Mitsuru;  
 Murakami, Masayuki; Sando, Yuji; Miyazaki, Sadao; Ishikura, Koji  
 (Shionogi) Prepared by M. Hale 308-4258 Page 216

and Co., Ltd., Japan). U.S. US 3997528 19761214, 23 pp. (English).  
 CODEN: USXXAM. PRIORITY: JP 1973-12032 19731025.

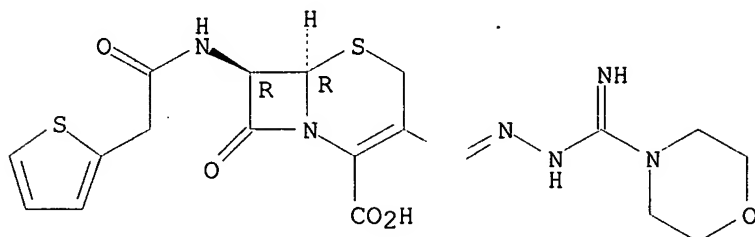
GI



AB The antibacterial (no data) (guanyldiazono)cephalosporins I (R, R1, R2  
 = alkyl, alkenyl, aralkyl, aryl, NH2, MeO; NR1R2 = N-heterocyclic, i.e. morpholino, piperidino; RR1 = CH2CH2; R3 = H, thienylacetyl, PhOCH2CO, H2NCHPhCO, PhCH2CO, furylacetyl, tetrazolylacetyl, Me3CCO2C, Cl3CCH2O2C; R4 = H; n = 1, 0) and their salts were prepd. by treating the hemiacetal lactones II with H2NNHC(NR1R2):NR (III). I (R4 = 4-O2NC6H4CH2, Ph2CH, Me) were prepd. by treating 3-formylcephem-4-carboxylates with III.

L3 ANSWER 111 OF 148 REGISTRY COPYRIGHT 2000 ACS  
 RN 62733-20-4 REGISTRY  
 CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 3-[[[(imino-4-morpholinylmethyl)hydrazono]methyl]-8-oxo-7-[(2-thienylacetyl)amino]-, (6R-trans)- (9CI) (CA INDEX NAME)  
 FS STEREOSEARCH  
 MF C19 H22 N6 O5 S2  
 CI COM  
 LC STN Files: BEILSTEIN\*, CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL (\*File contains numerically searchable property data)

Absolute stereochemistry.  
 Double bond geometry unknown.

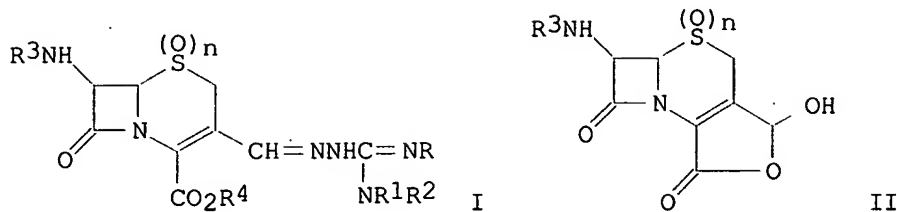


1 REFERENCES IN FILE CA (1967 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 86:189975 Cephalosporin compounds. Yoshioka, Mitsuru; Murakami, Masayuki; Sendo, Yuji; Miyazaki, Sadao; Ishikura, Koji (Shionogi) Prepared by M. Hale 308-4258 Page 217

and Co., Ltd., Japan). U.S. US 3997528 19761214, 23 pp. (English).  
 CODEN: USXXAM. PRIORITY: JP 1973-12032 19731025.

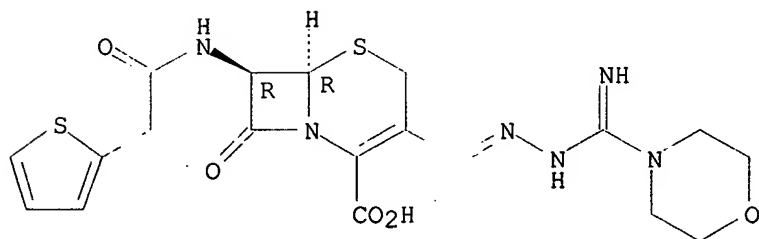
GI



AB The antibacterial (no data) (guanyldiazono)cephalosporins I (R, R1, R2  
 = alkyl, alkenyl, aralkyl, aryl, NH2, MeO; NR1R2 = N-heterocyclic, i.e. morpholino, piperidino; RR1 = CH2CH2; R3 = H, thienylacetyl, PhOCH2CO, H2NCHPhCO, PhCH2CO, furylacetyl, tetrazolylacetyl, Me3CCO2C, Cl3CCH2O2C; R4 = H; n = 1, 0) and their salts were prepd. by treating the hemiacetal lactones II with H2NNHC(NR1R2):NR (III). I (R4 = 4-O2NC6H4CH2, Ph2CH, Me) were prepd. by treating 3-formylcephem-4-carboxylates with III.

L3 ANSWER 112 OF 148 REGISTRY COPYRIGHT 2000 ACS  
 RN 62733-19-1 REGISTRY  
 CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 3-[[[(imino-4-morpholinylmethyl)hydrazono]methyl]-8-oxo-7-[(2-thienylacetyl)amino]-, hydrobromide (2:1), (6R-trans)- (9CI) (CA INDEX NAME)  
 FS STEREOSEARCH  
 MF C19 H22 N6 O5 S2 . 1/2 Br H  
 LC STN Files: CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL  
 CRN (62733-20-4)

Absolute stereochemistry.  
 Double bond geometry unknown.



● 1/2 HBr

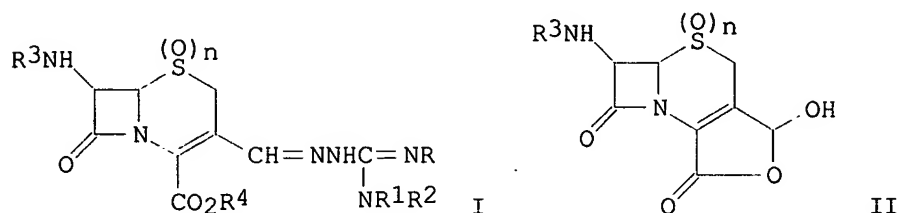
1 REFERENCES IN FILE CA (1967 TO DATE)  
 Prepared by M. Hale 308-4258

Page 218

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 86:189975 Cephalosporin compounds. Yoshioka, Mitsuru; Murakami, Masayuki; Sendo, Yuji; Miyazaki, Sadao; Ishikura, Koji (Shionogi and Co., Ltd., Japan). U.S. US 3997528 19761214, 23 pp. (English). CODEN: USXXAM. PRIORITY: JP 1973-12032 19731025.

GI



AB The antibacterial (no data) (guanyldihydrazono)cephalosporins I (R, R1, R2 = alkyl, alkenyl, aralkyl, aryl, NH2, MeO; NR1R2 = N-heterocyclic, i.e. morpholino, piperidino; RR1 = CH2CH2; R3 = H, thienylacetyl, PhOCH2CO, H2NCHPhCO, PhCH2CO, furylacetyl, tetrazolylacetyl, Me3CCO2C, Cl3CCH2O2C; R4 = H; n = 1, 0) and their salts were prepd. by treating the hemiacetal lactones II with H2NNHC(NR1R2):NR (III). I (R4 = 4-O2NC6H4CH2, Ph2CH, Me) were prepd. by treating 3-formylcephem-4-carboxylates with III.

L3 ANSWER 113 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 62733-18-0 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,

3-[[[(2,5-dihydro-1H-pyrrol-1-yl)iminomethyl]hydrazono]methyl]-8-oxo-7-[(2-thienylacetyl)amino]-, (6R-trans)- (9CI) (CA INDEX NAME)

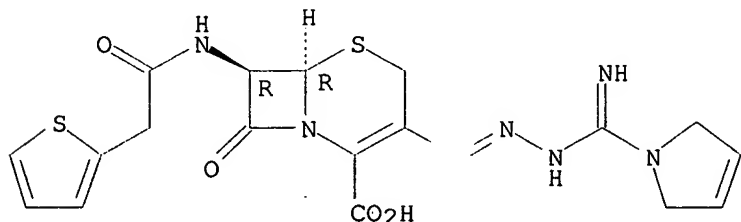
FS STEREOSEARCH

MF C19 H20 N6 O4 S2

CI COM

LC STN Files: BEILSTEIN\*, CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL (\*File contains numerically searchable property data)

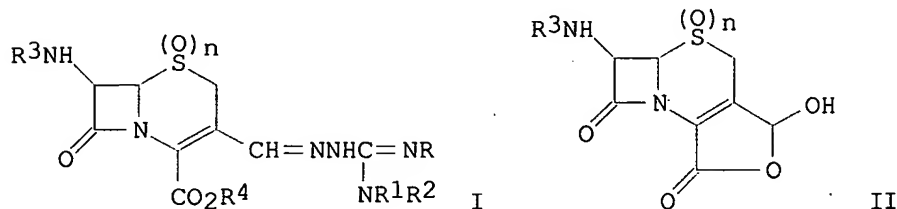
Absolute stereochemistry.  
Double bond geometry unknown.



1 REFERENCES IN FILE CA (1967 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 86:189975 Cephalosporin compounds. Yoshioka, Mitsuru; Murakami, Masayuki; Sendo, Yuji; Miyazaki, Sadao; Ishikura, Koji (Shionogi and Co., Ltd., Japan). U.S. US 3997528 19761214, 23 pp. (English). CODEN: USXXAM. PRIORITY: JP 1973-12032 19731025.

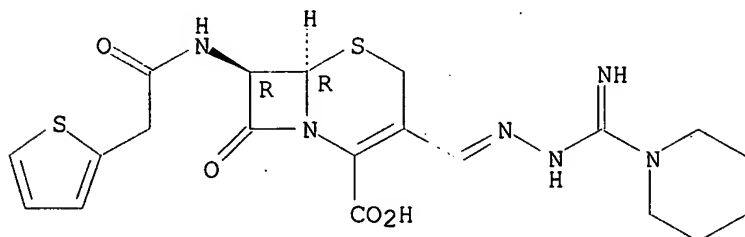
GI



AB The antibacterial (no data) (guanyldiazono)cephalosporins I (R, R1, R2 = alkyl, alkenyl, aralkyl, aryl, NH2, MeO; NR1R2 = N-heterocyclic, i.e. morpholino, piperidino; RR1 = CH2CH2; R3 = H, thienylacetyl, PhOCH2CO, H2NCHPhCO, PhCH2CO, furylacetyl, tetrazolylacetyl, Me3CCO2C, Cl3CCH2O2C; R4 = H; n = 1, 0) and their salts were prepd. by treating the hemiacetal lactones II with H2NNHC(NR1R2):NR (III). I (R4 = 4-O2NC6H4CH2, Ph2CH, Me) were prepd. by treating 3-formylcephem-4-carboxylates with III.

L3 ANSWER 114 OF 148 REGISTRY COPYRIGHT 2000 ACS  
 RN 62733-17-9 REGISTRY  
 CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 3-[[[(imino-1-piperidinylmethyl)hydrazono]methyl]-8-oxo-7-[(2-thienylacetyl)amino]-, (6R-trans)- (9CI) (CA INDEX NAME)  
 FS STEREOSEARCH  
 MF C20 H24 N6 O4 S2  
 CI COM  
 LC STN Files: BEILSTEIN\*, CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL (\*File contains numerically searchable property data)

Absolute stereochemistry.  
 Double bond geometry unknown.



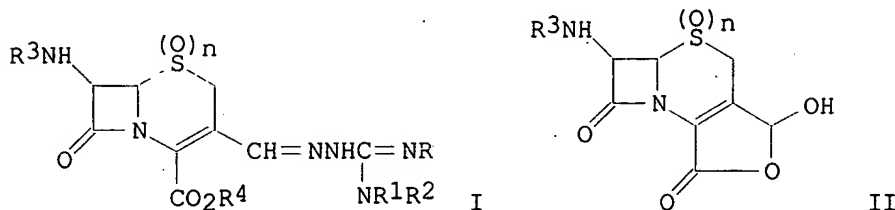
Prepared by M. Hale 308-4258

Page 220

1 REFERENCES IN FILE CA (1967 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 86:189975 Cephalosporin compounds. Yoshioka, Mitsuru; Murakami, Masayuki; Sendo, Yuji; Miyazaki, Sadao; Ishikura, Koji (Shionogi and Co., Ltd., Japan). U.S. US 3997528 19761214, 23 pp. (English). CODEN: USXXAM. PRIORITY: JP 1973-12032 19731025.

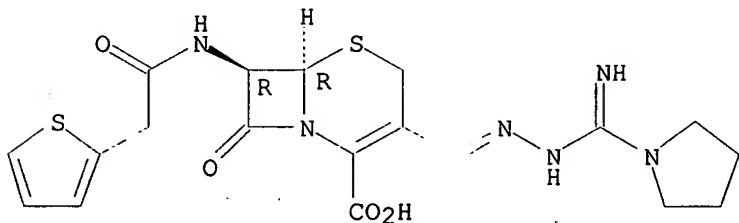
GI



AB The antibacterial (no data) (guanyldihydrazono)cephalosporins I (R, R1, R2 = alkyl, alkenyl, aralkyl, aryl, NH2, MeO; NR1R2 = N-heterocyclic, i.e. morpholino, piperidino; RR1 = CH2CH2; R3 = H, thienylacetyl, PhOCH2CO, H2NCHPhCO, PhCH2CO, furylacetyl, tetrazolylacetyl, Me3CCO2C, Cl3CCH2O2C; R4 = H; n = 1, 0) and their salts were prepd. by treating the hemiacetal lactones II with H2NNHC(NR1R2):NR (III). I (R4 = 4-O2NC6H4CH2, Ph2CH, Me) were prepd. by treating 3-formylcephem-4-carboxylates with III.

L3 ANSWER 115 OF 148 REGISTRY COPYRIGHT 2000 ACS  
 RN 62733-16-8 REGISTRY  
 CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 3-[[[(imino-1-pyrrolidinylmethyl)hydrazono]methyl]-8-oxo-7-[(2-thienylacetyl)amino]-, (6R-trans)- (9CI) (CA INDEX NAME)  
 FS STEREOSEARCH  
 MF C19 H22 N6 O4 S2  
 CI COM  
 LC STN Files: BEILSTEIN\*, CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL (\*File contains numerically searchable property data)

Absolute stereochemistry.  
 Double bond geometry unknown.



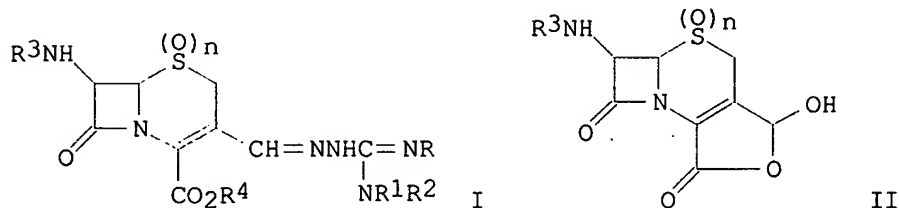
Prepared by M. Hale 308-4258

Page 221

1 REFERENCES IN FILE CA (1967 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 86:189975 Cephalosporin compounds. Yoshioka, Mitsuru; Murakami, Masayuki; Sendo, Yuji; Miyazaki, Sadao; Ishikura, Koji (Shionogi and Co., Ltd., Japan). U.S. US 3997528 19761214, 23 pp. (English). CODEN: USXXAM. PRIORITY: JP 1973-12032 19731025.

GI



AB The antibacterial (no data) (guanyldiazono)cephalosporins I (R, R1, R2 = alkyl, alkenyl, aralkyl, aryl, NH2, MeO; NR1R2 = N-heterocyclic, i.e. morpholino, piperidino; RR1 = CH2CH2; R3 = H, thienylacetyl, PhOCH2CO, H2NCHPhCO, PhCH2CO, furylacetyl, tetrazolylacetyl, Me3CCO2C, Cl3CCCH2O2C; R4 = H; n = 1, 0) and their salts were prepd. by treating the hemiacetal lactones II with H2NNHC(NR1R2):NR (III). I (R4 = 4-O2NC6H4CH2, Ph2CH, Me) were prepd. by treating 3-formylcephem-4-carboxylates with III.

L3 ANSWER 116 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 62732-98-3 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-(acetylamino)-3-[[[(dihydro-2H-1,3-oxazin-3(4H)-yl)iminomethyl]hydrazono]methyl]-8-oxo-, (4-nitrophenyl)methyl ester, (6R-trans)- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN 2H-1,3-Oxazine, 5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid deriv.

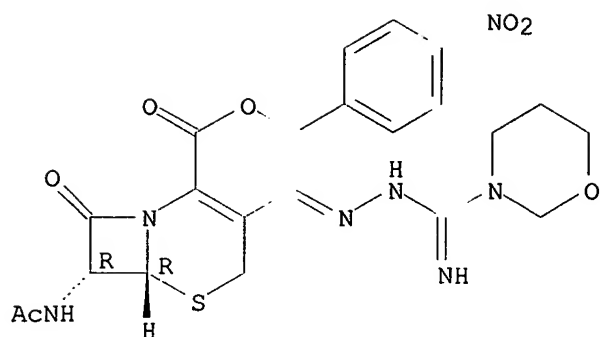
FS STEREOSEARCH

MF C22 H25 N7 O7 S

LC STN Files: BEILSTEIN\*, CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL (\*File contains numerically searchable property data)

Absolute stereochemistry.

Double bond geometry unknown.

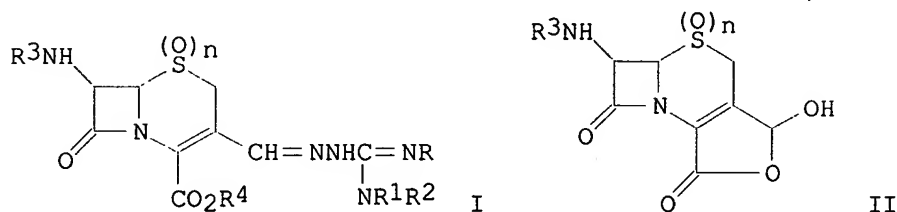


1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 86:189975 Cephalosporin compounds. Yoshioka, Mitsuru; Murakami, Masayuki; Sendo, Yuji; Miyazaki, Sadao; Ishikura, Koji (Shionogi and Co., Ltd., Japan). U.S. US 3997528 19761214, 23 pp. (English). CODEN: USXXAM. PRIORITY: JP 1973-12032 19731025.

GI



AB The antibacterial (no data) (guanyldiazono)cephalosporins I (R, R1, R2 = alkyl, alkenyl, aralkyl, aryl, NH2, MeO; NR1R2 = N-heterocyclic, i.e. morpholino, piperidino; RR1 = CH2CH2; R3 = H, thienylacetyl, PhOCH2CO, H2NCHPhCO, PhCH2CO, furylacetyl, tetrazolylacetyl, Me3CCO2C, Cl3CCH2O2C; R4 = H; n = 1, 0) and their salts were prepd. by treating the hemiacetal lactones II with H2NNHC(NR1R2):NR (III). I (R4 = 4-O2NC6H4CH2, Ph2CH, Me) were prepd. by treating 3-formylcephem-4-carboxylates with III.

L3 ANSWER 117 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 62732-96-1 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-(1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)-3-[[[(dihydro-2H-1,3-oxazin-3(4H)-yl)iminomethyl]hydrazono]methyl]-8-oxo-, methyl ester, (6R-trans)- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

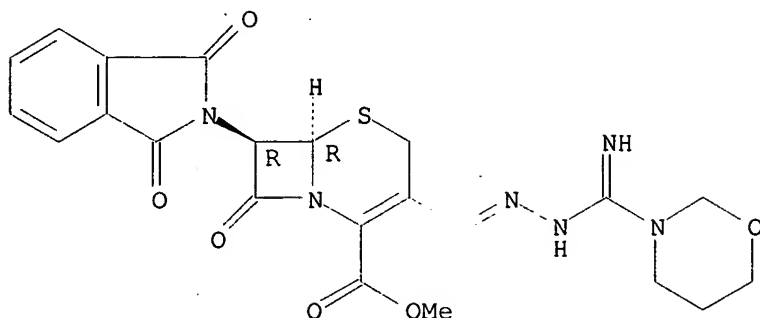
CN 2H-1,3-Oxazine, 5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid deriv.

Prepared by M. Hale 308-4258

Page 223

FS STEREOSEARCH  
 MF C22 H22 N6 O6 S  
 LC STN Files: BEILSTEIN\*, CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL  
 (\*File contains numerically searchable property data)

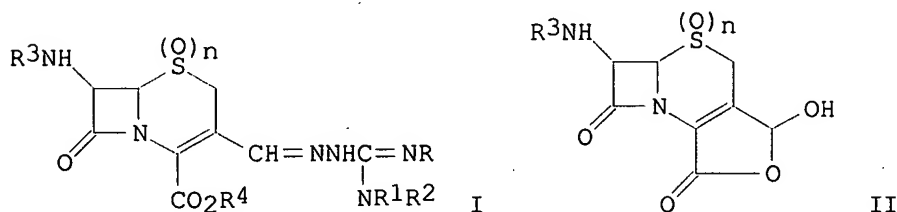
Absolute stereochemistry.  
 Double bond geometry unknown.



1 REFERENCES IN FILE CA (1967 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 86:189975 Cephalosporin compounds. Yoshioka, Mitsuru;  
 Murakami, Masayuki; Sendo, Yuji; Miyazaki, Sadao; Ishikura, Koji  
 (Shionogi  
 and Co., Ltd., Japan). U.S. US 3997528 19761214, 23 pp. (English).  
 CODEN: USXXAM. PRIORITY: JP 1973-12032 19731025.

GI



AB The antibacterial (no data) (guanyldihydrazono)cephalosporins I (R, R1, R2  
 =  
 alkyl, alkenyl, aralkyl, aryl, NH2, MeO; NR1R2 = N-heterocyclic, i.e.  
 morpholino, piperidino; RR1 = CH2CH2; R3 = H, thienylacetyl, PhOCH2CO,  
 H2NCHPhCO, PhCH2CO, furylacetyl, tetrazolylacetyl, Me3CCO2C, Cl3CCH2O2C;  
 R4 = H; n = 1, 0) and their salts were prepd. by treating the hemiacetal  
 lactones II with H2NNHC(NR1R2):NR (III). I (R4 = 4-O2NC6H4CH2, Ph2CH,  
 Me)  
 were prepd. by treating 3-formylcephem-4-carboxylates with III.

L3 ANSWER 118 OF 148 REGISTRY COPYRIGHT 2000 ACS  
 RN 62732-95-0 REGISTRY  
 CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,  
 Prepared by M. Hale 308-4258

3-[[[(dihydro-2H-1,3-oxazin-3(4H)-yl)iminomethyl]hydrazono]methyl]-8-oxo-7-  
 [(2-thienylacetyl)amino]-, diphenylmethyl ester, 5-oxide,  
 [6R-(6.alpha.,7.beta.)]- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN 2H-1,3-Oxazine, 5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid  
 deriv.

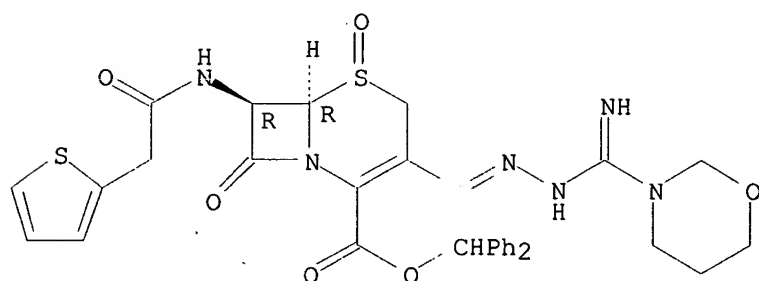
FS STEREOSEARCH

MF C32 H32 N6 O6 S2

LC STN Files: BEILSTEIN\*, CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL  
 (\*File contains numerically searchable property data)

Absolute stereochemistry.

Double bond geometry unknown.

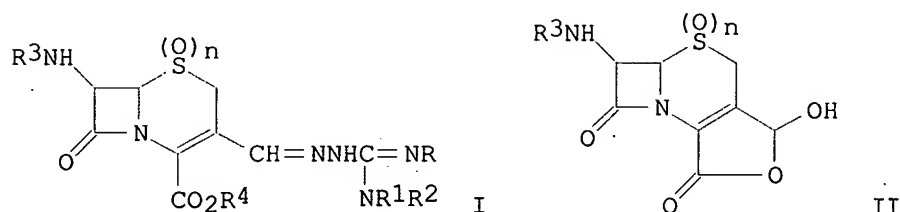


1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 86:189975 Cephalosporin compounds. Yoshioka, Mitsuru;  
 Murakami, Masayuki; Sendo, Yuji; Miyazaki, Sadao; Ishikura, Koji  
 (Shionogi  
 and Co., Ltd., Japan). U.S. US 3997528 19761214, 23 pp. (English).  
 CODEN: USXXAM. PRIORITY: JP 1973-12032 19731025.

GI

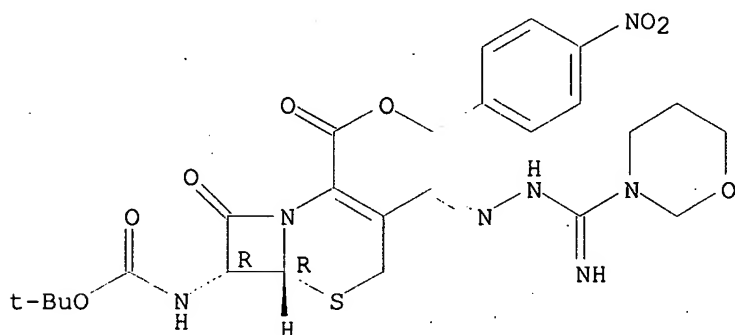


AB The antibacterial (no data) (guanyldihydrazono)cephalosporins I (R, R1, R2  
 =  
 alkyl, alkenyl, aralkyl, aryl, NH2, MeO; NR1R2 = N-heterocyclic, i.e.  
 morpholino, piperidino; RR1 = CH2CH2; R3 = H, thienylacetyl, PhOCH2CO,  
 H2NCHPhCO, PhCH2CO, furylacetyl, tetrazolylacetyl, Me3CCO2C, Cl3CCH2O2C;  
 R4 = H; n = 1, 0) and their salts were prepd. by treating the hemiacetal  
 lactones II with H2NNHC(NR1R2):NR (III). I (R4 = 4-O2NC6H4CH2, Ph2CH,  
 Me)  
 Prepared by M. Hale 308-4258 Page 225

were prepd. by treating 3-formylcephem-4-carboxylates with III.

L3 ANSWER 119 OF 148 REGISTRY COPYRIGHT 2000 ACS  
 RN 62732-94-9 REGISTRY  
 CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,  
 3-[[[(dihydro-2H-1,3-oxazin-3(4H)-yl)iminomethyl]hydrazono]methyl]-7-  
 [[(1,1-dimethylethoxy)carbonyl]amino]-8-oxo-, (4-nitrophenyl)methyl  
 ester,  
 (6R-trans)- (9CI) (CA INDEX NAME)  
 OTHER CA INDEX NAMES:  
 CN 2H-1,3-Oxazine, 5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid  
 deriv.  
 FS STEREOSEARCH  
 MF C25 H31 N7 O8 S  
 LC STN Files: BEILSTEIN\*, CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL  
 (\*File contains numerically searchable property data)

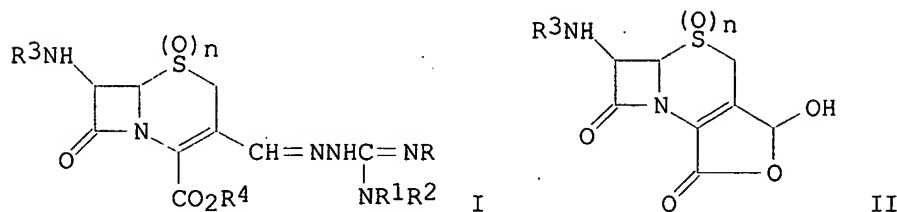
Absolute stereochemistry.  
 Double bond geometry unknown.



1 REFERENCES IN FILE CA (1967 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 86:189975 Cephalosporin compounds. Yoshioka, Mitsuru;  
 Murakami, Masayuki; Sendo, Yuji; Miyazaki, Sadao; Ishikura, Koji  
 (Shionogi  
 and Co., Ltd., Japan). U.S. US 3997528 19761214, 23 pp. (English).  
 CODEN: USXXAM. PRIORITY: JP 1973-12032 19731025.

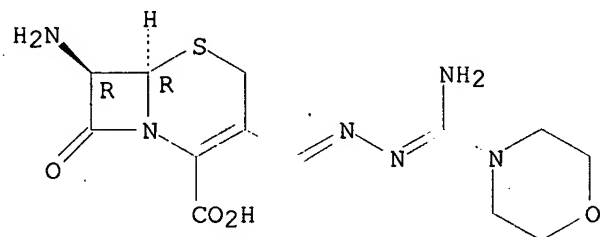
GI



AB The antibacterial (no data) (guanylhyaazono)cephalosporins I (R, R1, R2  
 = alkyl, alkenyl, aralkyl, aryl, NH2, MeO; NR1R2 = N-heterocyclic, i.e.  
 morpholino, piperidino; RR1 = CH2CH2; R3 = H, thienylacetyl, PhOCH2CO,  
 H2NCHPhCO, PhCH2CO, furylacetyl, tetrazolylacetyl, Me3CCO2C, Cl3CCH2O2C;  
 R4 = H; n = 1, 0) and their salts were prepd. by treating the hemiacetal  
 lactones II with H2NNHC(NR1R2):NR (III). I (R4 = 4-O2NC6H4CH2, Ph2CH,  
 Me)  
 were prepd. by treating 3-formylcephem-4-carboxylates with III.

L3 ANSWER 120 OF 148 REGISTRY COPYRIGHT 2000 ACS  
 RN 56376-57-9 REGISTRY  
 CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,  
 7-amino-3-[[[(imino-4-morpholinylmethyl)hydrazono]methyl]-8-oxo-,  
 monohydrobromide, (6R,7R)- (9CI) (CA INDEX NAME)  
 OTHER CA INDEX NAMES:  
 CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,  
 7-amino-3-[[[(imino-4-morpholinylmethyl)hydrazono]methyl]-8-oxo-,  
 monohydrobromide, (6R-trans)-  
 FS STEREOSEARCH  
 MF C13 H18 N6 O4 S . Br H  
 LC STN Files: CA, CAPLUS  
 CRN (62766-39-6)

Absolute stereochemistry.  
 Double bond geometry unknown.



● HBr

1 REFERENCES IN FILE CA (1967 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 83:58855 Pharmaceutical cephalosporins. Yoshioka, Mitsuru;  
 Sendo, Yuji; Murakami, Masayuki; Miyazaki, Sadao; Ishikura, Koji  
 (Shionogi  
 and Co., Ltd., Japan). Ger. Offen. DE 2450618 19750430, 56 pp.  
 (German).

CODEN: GWXXBX. PRIORITY: JP 1973-120328 19731025.

GI For diagram(s), see printed CA Issue.

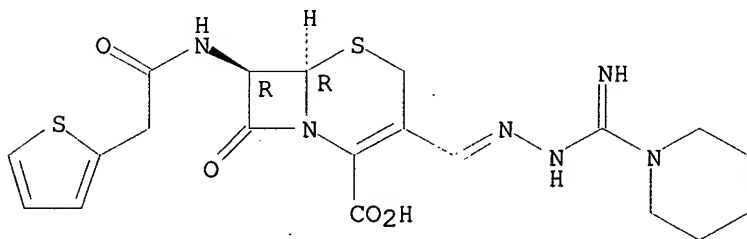
AB Approx. 60 bactericides (no data) I (e.g., R1 = 2-thienyl, PhCH(NH2),  
 PhCH2, 2-furyl; R2, R3 = H, Et, allyl, Ph; NR2R3 = morpholino) were  
 prepd.

in 41-100% yield by treatment of II with H2NNHC(:NH)NR2R3. P-nitrophenyl  
 Prepared by M. Hale 308-4258

3-formyl-7-tert-butoxycarbonylamino-3-cephem-4-carboxylate reacted with 4,4-(3-oxopentamethylene)guanylhiazine-HBr and THF for 16.5 hr at room temp. to give 72% of the  
3-[[4,4-(3-oxopentamethylene)guanylhiazono]methyl] cephem deriv.

L3 ANSWER 121 OF 148 REGISTRY COPYRIGHT 2000 ACS  
RN 56210-08-3 REGISTRY  
CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,  
3-[[[(imino-1-piperidinylmethyl)hydrazono]methyl]-8-oxo-7-[(2-thienylacetyl)amino]-, monohydriodide, (6R-trans)- (9CI) (CA INDEX NAME)  
FS STEREOSEARCH  
MF C20 H24 N6 O4 S2 . H I  
LC STN Files: CA, CAPLUS  
CRN (62733-17-9)

Absolute stereochemistry.  
Double bond geometry unknown.



● HI

1 REFERENCES IN FILE CA (1967 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 83:58855 Pharmaceutical cephalosporins. Yoshioka, Mitsuru; Sendo, Yuji; Murakami, Masayuki; Miyazaki, Sadao; Ishikura, Koji (Shionogi and Co., Ltd., Japan). Ger. Offen. DE 2450618 19750430, 56 pp. (German).

CODEN: GWXXBX. PRIORITY: JP 1973-120328 19731025.

GI For diagram(s), see printed CA Issue.

AB Approx. 60 bactericides (no data) I (e.g., R1 = 2-thienyl, PhCH(NH2), PhCH2, 2-furyl; R2, R3 = H, Et, allyl, Ph; NR2R3 = morpholino) were prepd.

in 41-100% yield by treatment of II with H2NNHC(=NH)NR2R3. P-nitrophenyl 3-formyl-7-tert-butoxycarbonylamino-3-cephem-4-carboxylate reacted with 4,4-(3-oxopentamethylene)guanylhiazine-HBr and THF for 16.5 hr at room temp. to give 72% of the

3-[[4,4-(3-oxopentamethylene)guanylhiazono]methyl] cephem deriv.

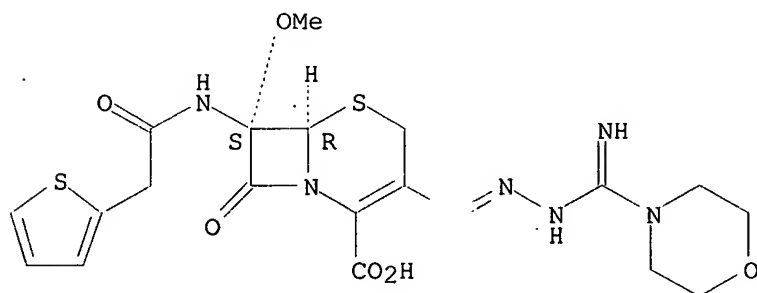
L3 ANSWER 122 OF 148 REGISTRY COPYRIGHT 2000 ACS  
RN 56204-21-8 REGISTRY

Prepared by M. Hale 308-4258

Page 228

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,  
 3-[[[(imino-4-morpholinylmethyl)hydrazono]methyl]-7-methoxy-8-oxo-7-[(2-  
 thienylacetyl)amino]-, monohydrobromide, (6R-cis)- (9CI) (CA INDEX NAME)  
 FS STEREOSEARCH  
 MF C20 H24 N6 O6 S2 . Br H  
 LC STN Files: CA, CAPLUS

Absolute stereochemistry.  
 Double bond geometry unknown.



● HBr

1 REFERENCES IN FILE CA (1967 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 83:58855 Pharmaceutical cephalosporins. Yoshioka, Mitsuru;  
 Sendo, Yuji; Murakami, Masayuki; Miyazaki, Sadao; Ishikura, Koji  
 (Shionogi  
 and Co., Ltd., Japan). Ger. Offen. DE 2450618 19750430, 56 pp.  
 (German).

CODEN: GWXXBX. PRIORITY: JP 1973-120328 19731025.

GI For diagram(s), see printed CA Issue.

AB Approx. 60 bactericides (no data) I (e.g., R1 = 2-thienyl, PhCH(NH2),  
 PhCH2, 2-furyl; R2, R3 = H, Et, allyl, Ph; NR2R3 = morpholino) were  
 prepd.

in 41-100% yield by treatment of II with H2NNHC(:NH)NR2R3. P-nitrophenyl  
 3-formyl-7-tert-butoxycarbonylamino-3-cephem-4-carboxylate reacted with  
 4,4-(3-oxopentamethylene)guanylhydrazine-HBr and THF for 16.5 hr at room  
 temp. to give 72% of the

3-[[[4,4-(3-oxopentamethylene)guanylhydrazono]meth  
 yl] cephem deriv.

L3 ANSWER 123 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 56204-20-7 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,  
 3-[[[(imino-4-morpholinylmethyl)hydrazono]methyl]-7-[[[(2-  
 nitrophenyl)thio]amino]-8-oxo-, monohydrobromide, (6R-trans)- (9CI) (CA  
 INDEX NAME)

FS STEREOSEARCH

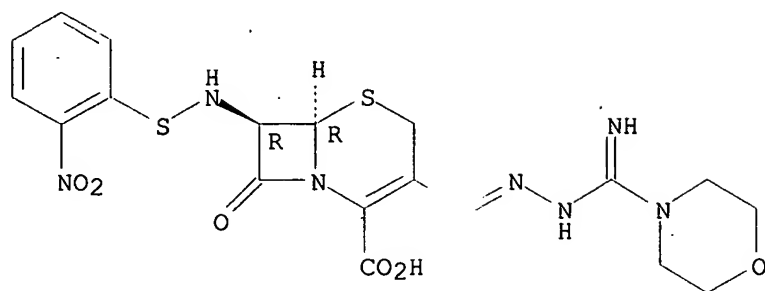
MF C19 H21 N7 O6 S2 . Br H

LC STN Files: CA, CAPLUS

Prepared by M. Hale 308-4258

Page 229

Absolute stereochemistry.  
Double bond geometry unknown.



● HBr

1 REFERENCES IN FILE CA (1967 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 83:58855 Pharmaceutical cephalosporins. Yoshioka, Mitsuru; Sendo, Yuji; Murakami, Masayuki; Miyazaki, Sadao; Ishikura, Koji (Shionogi and Co., Ltd., Japan). Ger. Offen. DE 2450618 19750430, 56 pp. (German).

CODEN: GWXXBX. PRIORITY: JP 1973-120328 19731025.

GI For diagram(s), see printed CA Issue.

AB Approx. 60 bactericides (no data) I (e.g., R1 = 2-thienyl, PhCH(NH2), PhCH2, 2-furyl; R2, R3 = H, Et, allyl, Ph; NR2R3 = morpholino) were prepd.

in 41-100% yield by treatment of II with H2NNHC(:NH)NR2R3. P-nitrophenyl 3-formyl-7-tert-butoxycarbonylamino-3-cephem-4-carboxylate reacted with 4,4-(3-oxopentamethylene)guanyldiazine-HBr and THF for 16.5 hr at room temp. to give 72% of the 3-[[4,4-(3-oxopentamethylene)guanyldiazono]methyl] cephem deriv.

L3 ANSWER 124 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 56204-19-4 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 3-[[[(imino-4-morpholinylmethyl)hydrazono]methyl]-8-oxo-7-[(2,2,2-trichloroethoxy)carbonyl]amino]-, monohydrobromide, (6R-trans)- (9CI)

(CA

INDEX NAME)

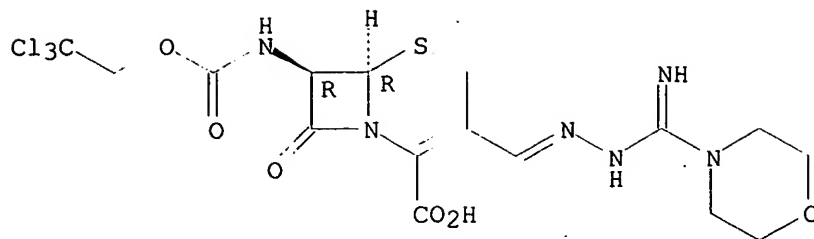
FS STEREOSEARCH

MF C16 H19 Cl3 N6 O6 S . Br H

LC STN Files: CA, CAPLUS

CRN (62733-34-0)

Absolute stereochemistry.  
Double bond geometry unknown.



● HBr

1 REFERENCES IN FILE CA (1967 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 83:58855 Pharmaceutical cephalosporins. Yoshioka, Mitsuru; Sendo, Yuji; Murakami, Masayuki; Miyazaki, Sadao; Ishikura, Koji (Shionogi and Co., Ltd., Japan). Ger. Offen. DE 2450618 19750430, 56 pp. (German).

CODEN: GWXXBX. PRIORITY: JP 1973-120328 19731025.

GI For diagram(s), see printed CA Issue.

AB Approx. 60 bactericides (no data) I (e.g., R1 = 2-thienyl, PhCH(NH2), PhCH2, 2-furyl; R2, R3 = H, Et, allyl, Ph; NR2R3 = morpholino) were prepd.

in 41-100% yield by treatment of II with H2NNHC(:NH)NR2R3. P-nitrophenyl 3-formyl-7-tert-butoxycarbonylamino-3-cephem-4-carboxylate reacted with 4,4-(3-oxopentamethylene)guanyldiazono-HBr and THF for 16.5 hr at room temp. to give 72% of the

3-[[4,4-(3-oxopentamethylene)guanyldiazono]methyl] cephem deriv.

L3 ANSWER 125 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 56204-18-3 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[[(1,1-dimethylethoxy)carbonyl]amino]-3-[[[imino-4-morpholinylmethyl]hydrazono]methyl]-8-oxo-, monohydrobromide, (6R-trans)-(9CI) (CA INDEX NAME)

FS STEREOSEARCH

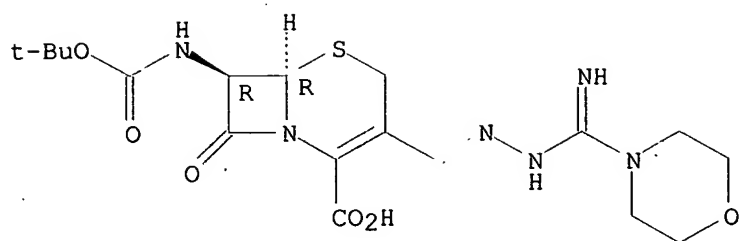
MF C18 H26 N6 O6 S . Br H

LC STN Files: CA, CAPLUS

CRN (62733-33-9)

Absolute stereochemistry.

Double bond geometry unknown.



● HBr

1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 83:58855 Pharmaceutical cephalosporins. Yoshioka, Mitsuru; Sendo, Yuji; Murakami, Masayuki; Miyazaki, Sadao; Ishikura, Koji (Shionogi and Co., Ltd., Japan). Ger. Offen. DE 2450618 19750430, 56 pp. (German).

CODEN: GWXXBX. PRIORITY: JP 1973-120328 19731025.

GI For diagram(s), see printed CA Issue.

AB Approx. 60 bactericides (no data) I (e.g., R1 = 2-thienyl, PhCH(NH2), PhCH2, 2-furyl; R2, R3 = H, Et, allyl, Ph; NR2R3 = morpholino) were prepd.

in 41-100% yield by treatment of II with H2NNHC(:NH)NR2R3. P-nitrophenyl 3-formyl-7-tert-butoxycarbonylamino-3-cephem-4-carboxylate reacted with 4,4-(3-oxopentamethylene)guanyldihydrazine-HBr and THF for 16.5 hr at room temp. to give 72% of the

3-[[4,4-(3-oxopentamethylene)guanyldihydrazono]methyl] cephem deriv.

L3 ANSWER 126 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 56204-17-2 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 3-[[[(imino-4-morpholinylmethyl)hydrazono]methyl]-8-oxo-7-[(1H-tetrazol-1-yl)acetyl]amino]-, monohydrobromide, (6R-trans)- (9CI) (CA INDEX NAME)

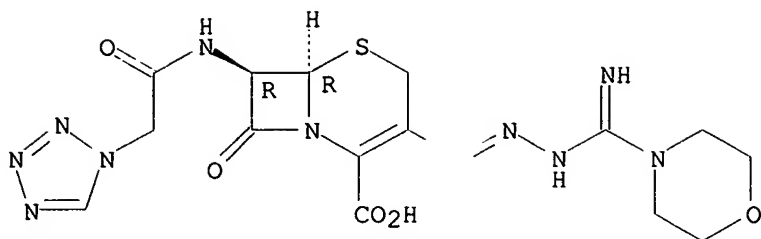
FS STEREOSEARCH

MF C16 H20 N10 O5 S . Br H

LC STN Files: BEILSTEIN\*, CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL (\*File contains numerically searchable property data)

Absolute stereochemistry.

Double bond geometry unknown.



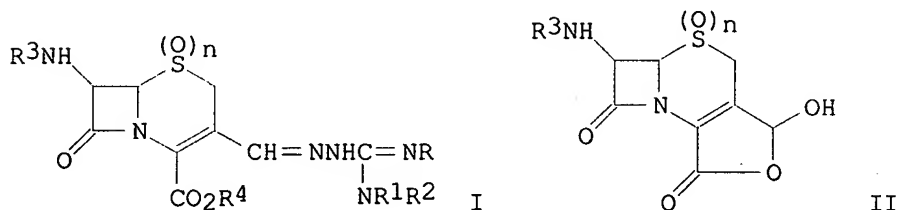
● HBr

2 REFERENCES IN FILE CA (1967 TO DATE)

2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 86:189975 Cephalosporin compounds. Yoshioka, Mitsuru; Murakami, Masayuki; Sendo, Yuji; Miyazaki, Sadao; Ishikura, Koji (Shionogi and Co., Ltd., Japan). U.S. US 3997528 19761214, 23 pp. (English). CODEN: USXXAM. PRIORITY: JP 1973-12032 19731025.

GI



AB The antibacterial (no data) (guanylylhydrazono)cephalosporins I (R, R<sub>1</sub>, R<sub>2</sub> = alkyl, alkenyl, aralkyl, aryl, NH<sub>2</sub>, MeO; NR<sub>1</sub>R<sub>2</sub> = N-heterocyclic, i.e. morpholino, piperidino; RR<sub>1</sub> = CH<sub>2</sub>CH<sub>2</sub>; R<sub>3</sub> = H, thienylacetyl, PhOCH<sub>2</sub>CO, H<sub>2</sub>NCHPhCO, PhCH<sub>2</sub>CO, furylacetyl, tetrazolylacetyl, Me<sub>3</sub>CCO<sub>2</sub>C, Cl<sub>3</sub>CCCH<sub>2</sub>O<sub>2</sub>C; R<sub>4</sub> = H; n = 1, 0) and their salts were prepd. by treating the hemiacetal lactones II with H<sub>2</sub>NNHC(NR<sub>1</sub>R<sub>2</sub>):NR (III). I (R<sub>4</sub> = 4-O<sub>2</sub>NC<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>, Ph<sub>2</sub>CH, Me) were prepd. by treating 3-formylcephem-4-carboxylates with III.

REFERENCE 2: 83:58855 Pharmaceutical cephalosporins. Yoshioka, Mitsuru; Sendo, Yuji; Murakami, Masayuki; Miyazaki, Sadao; Ishikura, Koji (Shionogi and Co., Ltd., Japan). Ger. Offen. DE 2450618 19750430, 56 pp. (German).

CODEN: GWXXBX. PRIORITY: JP 1973-120328 19731025.

GI For diagram(s), see printed CA Issue.

AB Approx. 60 bactericides (no data) I (e.g., R<sub>1</sub> = 2-thienyl, PhCH(NH<sub>2</sub>),

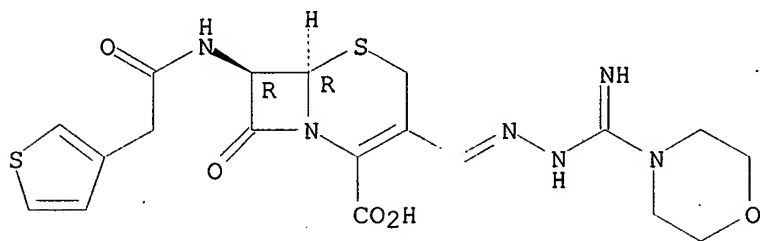
Prepared by M. Hale 308-4258

Page 233

PhCH<sub>2</sub>, 2-furyl; R<sub>2</sub>, R<sub>3</sub> = H, Et, allyl, Ph; NR<sub>2</sub>R<sub>3</sub> = morpholino) were  
 prepd.  
 in 41-100% yield by treatment of II with H<sub>2</sub>NNHC(:NH)NR<sub>2</sub>R<sub>3</sub>. P-nitrophenyl  
 3-formyl-7-tert-butoxycarbonylamino-3-cephem-4-carboxylate reacted with  
 4,4-(3-oxopentamethylene)guanyldiazine-HBr and THF for 16.5 hr at room  
 temp. to give 72% of the  
 3-[[4,4-(3-oxopentamethylene)guanyldiazono]meth  
 yl] cephem deriv.

L3 ANSWER 127 OF 148 REGISTRY COPYRIGHT 2000 ACS  
 RN 56204-16-1 REGISTRY  
 CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,  
 3-[[[(imino-4-morpholinylmethyl)hydrazono]methyl]-8-oxo-7-[(3-  
 thienylacetyl)amino]-, monohydrobromide, (6R-trans)- (9CI) (CA INDEX  
 NAME)  
 FS STEREOSEARCH  
 MF C19 H22 N6 O5 S2 . Br H  
 LC STN Files: CA, CAPLUS  
 CRN (62733-32-8)

Absolute stereochemistry.  
 Double bond geometry unknown.



● HBr

1 REFERENCES IN FILE CA (1967 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 83:58855 Pharmaceutical cephalosporins. Yoshioka, Mitsuru;  
 Sando, Yuji; Murakami, Masayuki; Miyazaki, Sadao; Ishikura, Koji  
 (Shionogi  
 and Co., Ltd., Japan). Ger. Offen. DE 2450618 19750430, 56 pp.  
 (German).

CODEN: GWXXBX. PRIORITY: JP 1973-120328 19731025.

GI For diagram(s), see printed CA Issue.

AB Approx. 60 bactericides (no data) I (e.g., R<sub>1</sub> = 2-thienyl, PhCH(NH<sub>2</sub>),  
 PhCH<sub>2</sub>, 2-furyl; R<sub>2</sub>, R<sub>3</sub> = H, Et, allyl, Ph; NR<sub>2</sub>R<sub>3</sub> = morpholino) were  
 prepd.

in 41-100% yield by treatment of II with H<sub>2</sub>NNHC(:NH)NR<sub>2</sub>R<sub>3</sub>. P-nitrophenyl  
 3-formyl-7-tert-butoxycarbonylamino-3-cephem-4-carboxylate reacted with  
 4,4-(3-oxopentamethylene)guanyldiazine-HBr and THF for 16.5 hr at room  
 temp. to give 72% of the  
 3-[[4,4-(3-oxopentamethylene)guanyldiazono]meth  
 yl] cephem deriv.  
 Prepared by M. Hale 308-4258

yl] cephem deriv.

L3 ANSWER 128 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 56204-15-0 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,

7-[(2-furanylacetyl)amino]-3-[[ (imino-4-morpholinylmethyl)hydrazono]methyl  
]-8-oxo-, monohydrobromide, (6R-trans)- (9CI) (CA INDEX NAME)

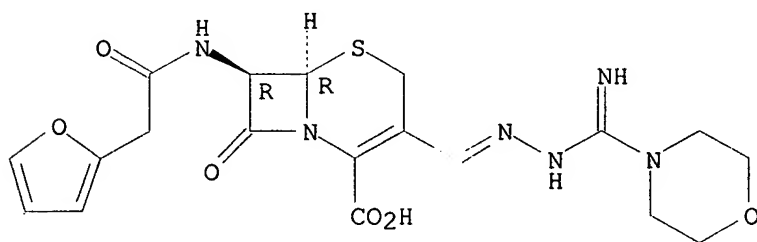
FS STEREOSEARCH

MF C19 H22 N6 O6 S . Br H

LC STN Files: BEILSTEIN\*, CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL  
(\*File contains numerically searchable property data)

Absolute stereochemistry.

Double bond geometry unknown.



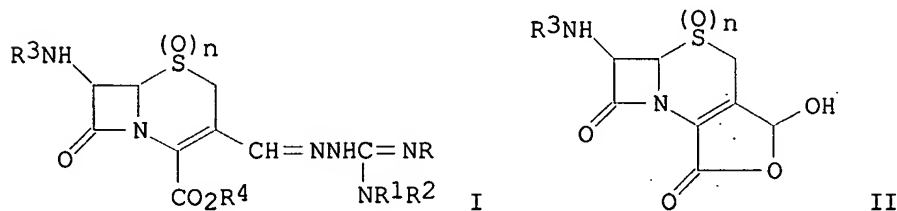
● HBr

2 REFERENCES IN FILE CA (1967 TO DATE)

2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 86:189975 Cephalosporin compounds. Yoshioka, Mitsuru;  
Murakami, Masayuki; Sendo, Yuji; Miyazaki, Sadao; Ishikura, Koji  
(Shionogi  
and Co., Ltd., Japan). U.S. US 3997528 19761214, 23 pp. (English).  
CODEN: USXXAM. PRIORITY: JP 1973-12032 19731025.

GI



AB The antibacterial (no data) (guanylhiazono)cephalosporins I (R, R1, R2  
=  
alkyl, alkenyl, aralkyl, aryl, NH2, MeO; NR1R2 = N-heterocyclic, i.e.  
Prepared by M. Hale 308-4258 Page 235

morpholino, piperidino; RR1 = CH2CH2; R3 = H, thienylacetyl, PhOCH2CO, H2NCHPhCO, PhCH2CO, furylacetyl, tetrazolylacetyl, Me3CCO2C, Cl3CCH2O2C; R4 = H; n = 1, 0) and their salts were prepd. by treating the hemiacetal lactones II with H2NNHC(NR1R2):NR (III). I (R4 = 4-O2NC6H4CH2, Ph2CH,

Me)

were prepd. by treating 3-formylcephem-4-carboxylates with III.

REFERENCE 2: 83:58855 Pharmaceutical cephalosporins. Yoshioka, Mitsuru; Sendo, Yuji; Murakami, Masayuki; Miyazaki, Sadao; Ishikura, Koji (Shionogi and Co., Ltd., Japan). Ger. Offen. DE 2450618 19750430, 56 pp. (German).

CODEN: GWXXBX. PRIORITY: JP 1973-120328 19731025.

GI For diagram(s), see printed CA Issue.

AB Approx. 60 bactericides (no data) I (e.g., R1 = 2-thienyl, PhCH(NH2), PhCH2, 2-furyl; R2, R3 = H, Et, allyl, Ph; NR2R3 = morpholino) were prepd.

in 41-100% yield by treatment of II with H2NNHC(:NH)NR2R3. P-nitrophenyl 3-formyl-7-tert-butoxycarbonylamino-3-cephem-4-carboxylate reacted with 4,4-(3-oxopentamethylene)guanyldiazine-HBr and THF for 16.5 hr at room temp. to give 72% of the

3-[[4,4-(3-oxopentamethylene)guanyldiazono]methyl] cephem deriv.

L3 ANSWER 129 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 56204-14-9 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 3-[[[(imino-4-morpholinylmethyl)hydrazono]methyl]-8-oxo-7-[(phenylacetyl)amino]-, monohydrobromide, (6R-trans)- (9CI) (CA INDEX NAME)

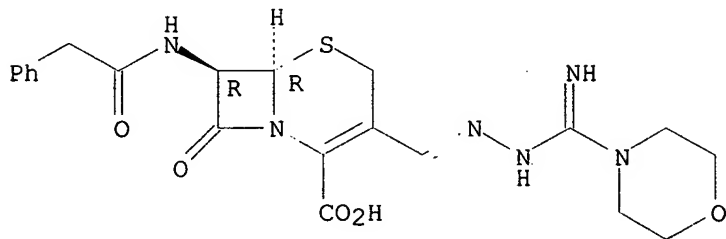
FS STEREOSEARCH

MF C21 H24 N6 O5 S . Br H

LC STN Files: CA, CAPLUS

Absolute stereochemistry.

Double bond geometry unknown.



● HBr

1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 83:58855 Pharmaceutical cephalosporins. Yoshioka, Mitsuru; Prepared by M. Hale 308-4258 Page 236

Sendo, Yuji; Murakami, Masayuki; Miyazaki, Sadao; Ishikura, Koji  
(Shionogi  
and Co., Ltd., Japan). Ger. Offen. DE 2450618 19750430, 56 pp.  
(German).

CODEN: GWXXBX. PRIORITY: JP 1973-120328 19731025.

GI For diagram(s), see printed CA Issue.

AB Approx. 60 bactericides (no data) I (e.g., R1 = 2-thienyl, PhCH(NH2),  
PhCH2, 2-furyl; R2, R3 = H, Et, allyl, Ph; NR2R3 = morpholino) were  
prepd.

in 41-100% yield by treatment of II with H2NNHC(:NH)NR2R3. P-nitrophenyl  
3-formyl-7-tert-butoxycarbonylamino-3-cephem-4-carboxylate reacted with  
4,4-(3-oxopentamethylene)guanyldiazine-HBr and THF for 16.5 hr at room  
temp. to give 72% of the

3-[[[4,4-(3-oxopentamethylene)guanyldiazono]meth  
yl] cephem deriv.

L3 ANSWER 130 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 56204-13-8 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,

7-[[[(1,1-dimethylethoxy)carbonyl]amino]phenylacetyl]amino]-3-[[[imino-4-  
morpholinylmethyl]hydrazono]methyl]-8-oxo-, monohydrobromide,  
[6R-(6.alpha.,7.beta.)]- (9CI) (CA INDEX NAME)

FS STEREOSEARCH

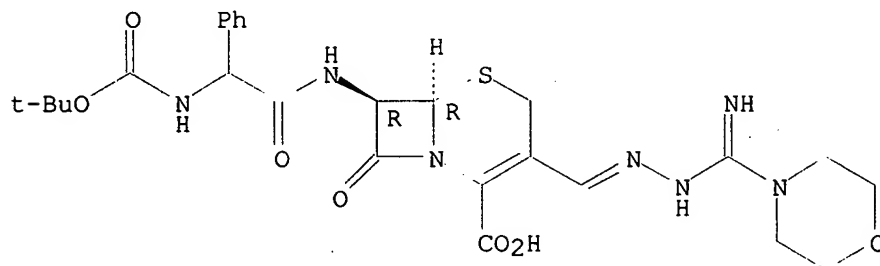
MF C26 H33 N7 O7 S . Br H

LC STN Files: CA, CAPLUS

CRN (62733-30-6)

Absolute stereochemistry.

Double bond geometry unknown.



● HBr

1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 83:58855 Pharmaceutical cephalosporins. Yoshioka, Mitsuru;  
Sendo, Yuji; Murakami, Masayuki; Miyazaki, Sadao; Ishikura, Koji  
(Shionogi  
and Co., Ltd., Japan). Ger. Offen. DE 2450618 19750430, 56 pp.  
(German).

CODEN: GWXXBX. PRIORITY: JP 1973-120328 19731025.  
Prepared by M. Hale 308-4258

Page 237

GI For diagram(s), see printed CA Issue.

AB Approx. 60 bactericides (no data) I (e.g., R1 = 2-thienyl, PhCH(NH2), PhCH2, 2-furyl; R2, R3 = H, Et, allyl, Ph; NR2R3 = morpholino) were prepd.

in 41-100% yield by treatment of II with H2NNHC(:NH)NR2R3. P-nitrophenyl 3-formyl-7-tert-butoxycarbonylamino-3-cephem-4-carboxylate reacted with 4,4-(3-oxopentamethylene)guanylhiazine-HBr and THF for 16.5 hr at room temp. to give 72% of the

3-[[4,4-(3-oxopentamethylene)guanylhiazono]methyl] cephem deriv.

L3 ANSWER 131 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 56204-12-7 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,

7-[(aminophenylacetyl)amino]-3-[[[(imino-4-morpholinylmethyl)hydrazono]methyl]-8-oxo-, monohydrobromide, [6R-(6.alpha.,7.beta.)]- (9CI) (CA INDEX NAME)

FS STEREOSEARCH

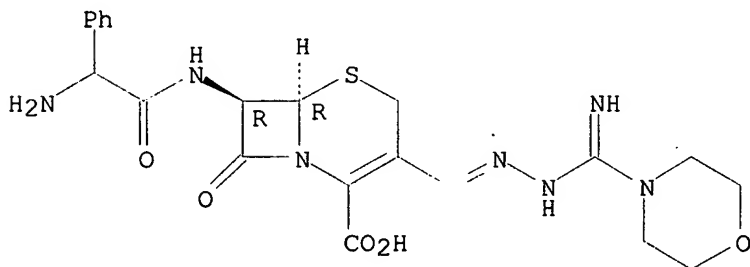
MF C21 H25 N7 O5 S . Br H

LC STN Files: CA, CAPLUS

CRN (62733-29-3)

Absolute stereochemistry.

Double bond geometry unknown.



● HBr

1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 83:58855 Pharmaceutical cephalosporins. Yoshioka, Mitsuru; Sendo, Yuji; Murakami, Masayuki; Miyazaki, Sadao; Ishikura, Koji (Shionogi and Co., Ltd., Japan). Ger. Offen. DE 2450618 19750430, 56 pp. (German).

CODEN: GWXXBX. PRIORITY: JP 1973-120328 19731025.

GI For diagram(s), see printed CA Issue.

AB Approx. 60 bactericides (no data) I (e.g., R1 = 2-thienyl, PhCH(NH2), PhCH2, 2-furyl; R2, R3 = H, Et, allyl, Ph; NR2R3 = morpholino) were prepd.

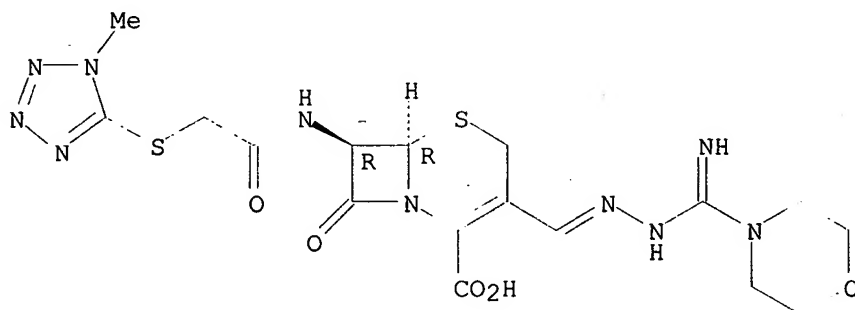
in 41-100% yield by treatment of II with H2NNHC(:NH)NR2R3. P-nitrophenyl Prepared by M. Hale 308-4258

Page 238

3-[[4,4-(3-oxopentamethylene)guanylhydrazono]meth  
yl] cephem deriv.

LC STN Files: CA, CAPLUS

Double bond geometry unknown.

 $\bullet$  HBr

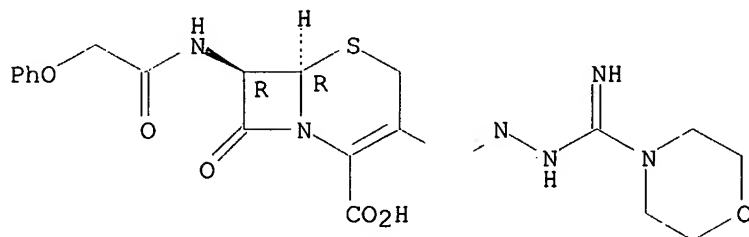
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

3-[[4,4-(3-oxopentamethylene)guanylhyaazono]meth  
yl] cephem deriv.

Page 239

L3 ANSWER 133 OF 148 REGISTRY COPYRIGHT 2000 ACS  
 RN 56204-10-5 REGISTRY  
 CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,  
 3-[[[(imino-4-morpholinylmethyl)hydrazono]methyl]-8-oxo-7-  
 [(phenoxyacetyl)amino]-, monohydrobromide, (6R-trans)- (9CI) (CA INDEX  
 NAME)  
 FS STEREOSEARCH  
 MF C21 H24 N6 O6 S . Br H  
 LC STN Files: CA, CAPLUS  
 CRN (62733-27-1)

Absolute stereochemistry.  
 Double bond geometry unknown.



• HBr

1 REFERENCES IN FILE CA (1967 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 83:58855 Pharmaceutical cephalosporins. Yoshioka, Mitsuru;  
 Sendo, Yuji; Murakami, Masayuki; Miyazaki, Sadao; Ishikura, Koji  
 (Shionogi  
 and Co., Ltd., Japan). Ger. Offen. DE 2450618 19750430, 56 pp.  
 (German).

CODEN: GWXXBX. PRIORITY: JP 1973-120328 19731025.

GI For diagram(s), see printed CA Issue.

AB Approx. 60 bactericides (no data) I (e.g., R1 = 2-thienyl, PhCH(NH2),  
 PhCH2, 2-furyl; R2, R3 = H, Et, allyl, Ph; NR2R3 = morpholino) were  
 prepd.

in 41-100% yield by treatment of II with H2NNHC(:NH)NR2R3. P-nitrophenyl  
 3-formyl-7-tert-butoxycarbonylamino-3-cephem-4-carboxylate reacted with  
 4,4-(3-oxopentamethylene)guanylhiazine-HBr and THF for 16.5 hr at room  
 temp. to give 72% of the  
 3-[[[4,4-(3-oxopentamethylene)guanylhiazono]meth  
 yl] cephem deriv.

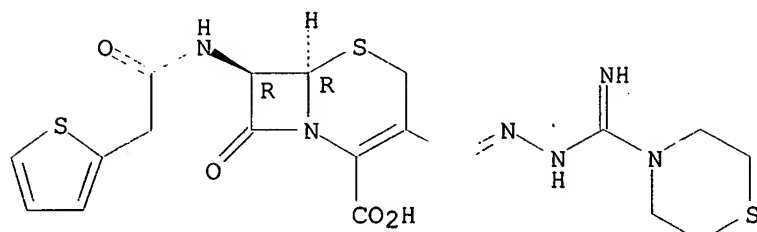
L3 ANSWER 134 OF 148 REGISTRY COPYRIGHT 2000 ACS  
 RN 56204-07-0 REGISTRY  
 CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,  
 3-[[[(imino-4-thiomorpholinylmethyl)hydrazono]methyl]-8-oxo-7-[(2-  
 thienylacetyl)amino]-, monohydriodide, (6R-trans)- (9CI) (CA INDEX NAME)  
 OTHER CA INDEX NAMES:

Prepared by M. Hale 308-4258

Page 240

CN Thiomorpholine, 5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid  
deriv.  
FS STEREOSEARCH  
MF C19 H22 N6 O4 S3 . H I  
LC STN Files: CA, CAPLUS  
CRN (62733-26-0)

Absolute stereochemistry.  
Double bond geometry unknown.



● HI

1 REFERENCES IN FILE CA (1967 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 83:58855 Pharmaceutical cephalosporins. Yoshioka, Mitsuru;  
Sendo, Yuji; Murakami, Masayuki; Miyazaki, Sadao; Ishikura, Koji  
(Shionogi  
and Co., Ltd., Japan). Ger. Offen. DE 2450618 19750430, 56 pp.  
(German).

CODEN: GWXXBX. PRIORITY: JP 1973-120328 19731025.

GI For diagram(s), see printed CA Issue.

AB Approx. 60 bactericides (no data) I (e.g., R1 = 2-thienyl, PhCH(NH<sub>2</sub>),  
PhCH<sub>2</sub>, 2-furyl; R2, R3 = H, Et, allyl, Ph; NR<sub>2</sub>R<sub>3</sub> = morpholino) were  
prepd.

in 41-100% yield by treatment of II with H<sub>2</sub>NNHC(:NH)NR<sub>2</sub>R<sub>3</sub>. P-nitrophenyl  
3-formyl-7-tert-butoxycarbonylamino-3-cephem-4-carboxylate reacted with  
4,4-(3-oxopentamethylene)guanyldiazine-HBr and THF for 16.5 hr at room  
temp. to give 72% of the

3-[[4,4-(3-oxopentamethylene)guanyldiazono]meth  
yl] cephem deriv.

L3 ANSWER 135 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 56204-06-9 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,  
3-[[[(imino-3-thiazolidinylmethyl)hydrazono]methyl]-8-oxo-7-[(2-  
thienylacetyl)amino]-, monohydriodide, (6R-trans)- (9CI) (CA INDEX NAME)

FS STEREOSEARCH

MF C18 H20 N6 O4 S3 . H I

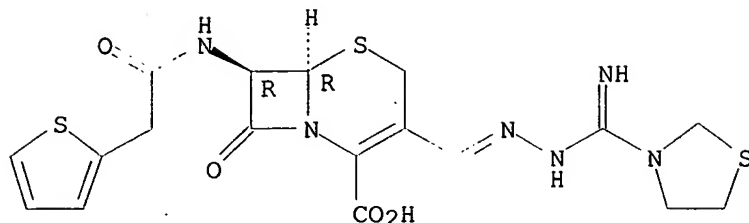
LC STN Files: CA, CAPLUS

CRN (62733-25-9)

Absolute stereochemistry.  
Prepared by M. Hale 308-4258

Page 241

Double bond geometry unknown.



1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 83:58855 Pharmaceutical cephalosporins. Yoshioka, Mitsuru; Sendo, Yuji; Murakami, Masayuki; Miyazaki, Sadao; Ishikura, Koji (Shionogi and Co., Ltd., Japan). Ger. Offen. DE 2450618 19750430, 56 pp. (German).

CODEN: GWXXBX. PRIORITY: JP 1973-120328 19731025.

GI For diagram(s), see printed CA Issue.

AB Approx. 60 bactericides (no data) I (e.g., R1 = 2-thienyl, PhCH(NH2), PhCH2, 2-furyl; R2, R3 = H, Et, allyl, Ph; NR2R3 = morpholino) were prepd.

in 41-100% yield by treatment of II with H2NNHC(:NH)NR2R3. P-nitrophenyl 3-formyl-7-tert-butoxycarbonylamino-3-cephem-4-carboxylate reacted with 4,4-(3-oxopentamethylene)guanyldiazono-HBr and THF for 16.5 hr at room temp. to give 72% of the

3-[[[4,4-(3-oxopentamethylene)guanyldiazono]methyl] cephem deriv.

L3 ANSWER 136 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 56204-05-8 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,

3-[[[(dihydro-2H-1,3-oxazin-3(4H)-yl)iminomethyl]hydrazono]methyl]-8-oxo-7-[[2-thienylacetyl)amino]-, monohydriodide, (6R-trans)- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN 2H-1,3-Oxazine, 5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid deriv.

FS STEREOSEARCH

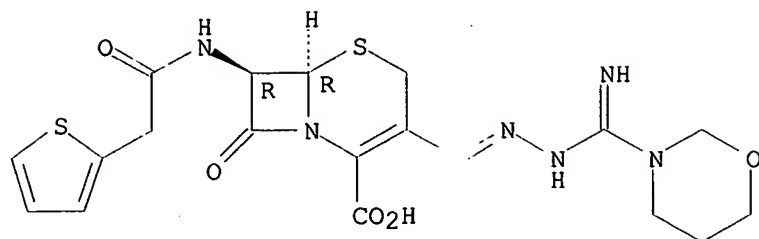
MF C19 H22 N6 O5 S2 . H I

LC STN Files: CA, CAPLUS

CRN (62733-24-8)

Absolute stereochemistry.

Double bond geometry unknown.



● HI

1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 83:58855 Pharmaceutical cephalosporins. Yoshioka, Mitsuru; Sendo, Yuji; Murakami, Masayuki; Miyazaki, Sadao; Ishikura, Koji (Shionogi and Co., Ltd., Japan). Ger. Offen. DE 2450618 19750430, 56 pp. (German).

CODEN: GWXXBX. PRIORITY: JP 1973-120328 19731025.

GI For diagram(s), see printed CA Issue.

AB Approx. 60 bactericides (no data) I (e.g., R1 = 2-thienyl, PhCH(NH2), PhCH2, 2-furyl; R2, R3 = H, Et, allyl, Ph; NR2R3 = morpholino) were prepd.

in 41-100% yield by treatment of II with H2NNHC(:NH)NR2R3. P-nitrophenyl 3-formyl-7-tert-butoxycarbonylamino-3-cephem-4-carboxylate reacted with 4,4-(3-oxopentamethylene)guanyldiazono-HBr and THF for 16.5 hr at room temp. to give 72% of the

3-[[4,4-(3-oxopentamethylene)guanyldiazono]methyl] cephem deriv.

L3 ANSWER 137 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 56204-04-7 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,

3-[[[imino(tetrahydro-2H-1,2-oxazin-2-yl)methyl]hydrazono]methyl]-8-oxo-7-[(2-thienylacetyl)amino]-, monohydriodide, (6R-trans)- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN 2H-1,2-Oxazine, 5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid deriv.

FS STEREOSEARCH

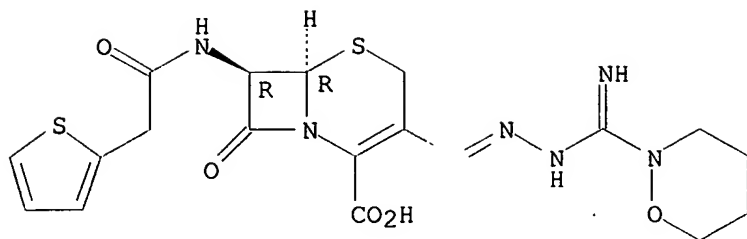
MF C19 H22 N6 O5 S2 . H I

LC STN Files: CA, CAPLUS

CRN (62733-23-7)

Absolute stereochemistry.

Double bond geometry unknown.



● HI

1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 83:58855 Pharmaceutical cephalosporins. Yoshioka, Mitsuru; Sendo, Yuji; Murakami, Masayuki; Miyazaki, Sadao; Ishikura, Koji (Shionogi and Co., Ltd., Japan). Ger. Offen. DE 2450618 19750430, 56 pp. (German).

CODEN: GWXXBX. PRIORITY: JP 1973-120328 19731025.

GI For diagram(s), see printed CA Issue.

AB Approx. 60 bactericides (no data) I (e.g., R1 = 2-thienyl, PhCH(NH2), PhCH2, 2-furyl; R2, R3 = H, Et, allyl, Ph; NR2R3 = morpholino) were prepd.

in 41-100% yield by treatment of II with H2NNHC(:NH)NR2R3. P-nitrophenyl 3-formyl-7-tert-butoxycarbonylamino-3-cephem-4-carboxylate reacted with 4,4-(3-oxopentamethylene)guanyldiazine-HBr and THF for 16.5 hr at room temp. to give 72% of the

3-[[4,4-(3-oxopentamethylene)guanyldiazono]methyl]-cephem deriv.

L3 ANSWER 138 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 56204-03-6 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,

3-[[[(2,6-dimethyl-4-morpholinyl)iminomethyl]hydrazono]methyl]-8-oxo-7-[(2-thienylacetyl)amino]-, monohydriodide, [6R-(6.alpha.,7.beta.)]- (9CI) (CA

INDEX NAME)

FS STEREOSEARCH

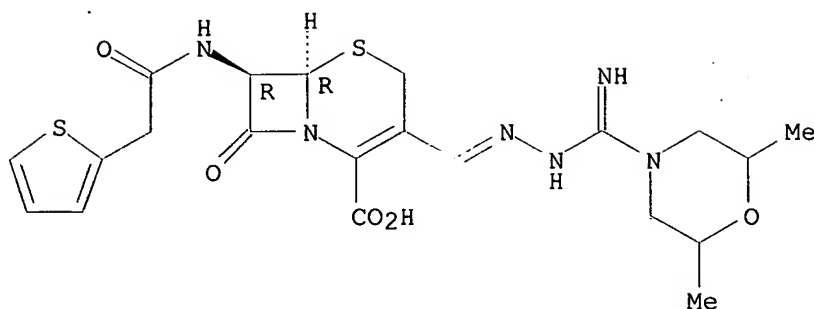
MF C21 H26 N6 O5 S2 . H I

LC STN Files: CA, CAPLUS

CRN (62777-35-9)

Absolute stereochemistry.

Double bond geometry unknown.



● HI

1 REFERENCES IN FILE CA (1967 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 83:58855 Pharmaceutical cephalosporins. Yoshioka, Mitsuru; Sendo, Yuji; Murakami, Masayuki; Miyazaki, Sadao; Ishikura, Koji (Shionogi and Co., Ltd., Japan). Ger. Offen. DE 2450618 19750430, 56 pp. (German).

CODEN: GWXXBX. PRIORITY: JP 1973-120328 19731025.

GI For diagram(s), see printed CA Issue.

AB Approx. 60 bactericides (no data) I (e.g., R1 = 2-thienyl, PhCH(NH2), PhCH2, 2-furyl; R2, R3 = H, Et, allyl, Ph; NR2R3 = morpholino) were prepd.

in 41-100% yield by treatment of II with H2NNHC(:NH)NR2R3. P-nitrophenyl 3-formyl-7-tert-butoxycarbonylamino-3-cephem-4-carboxylate reacted with 4,4-(3-oxopentamethylene)guanyldiazine-HBr and THF for 16.5 hr at room temp. to give 72% of the

3-[[4,4-(3-oxopentamethylene)guanyldiazono]methyl] cephem deriv.

L3 ANSWER 139 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 56204-02-5 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,

3-[[[(2,5-dimethyl-4-morpholinyl)iminomethyl]hydrazono]methyl]-8-oxo-7-[(2-thienylacetyl)amino]-, monohydriodide, [6R-(6.alpha.,7.beta.)]- (9CI)

(CA

INDEX NAME)

FS STEREOSEARCH

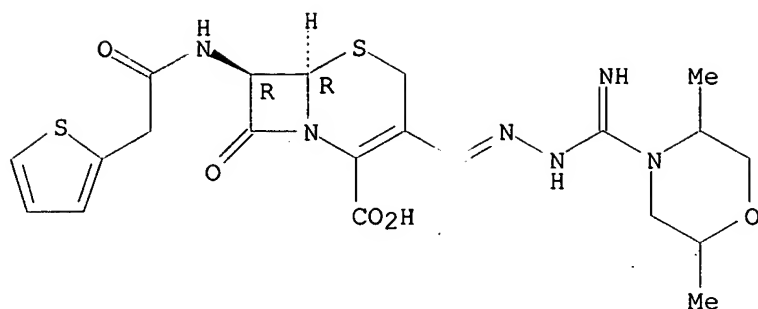
MF C21 H26 N6 O5 S2 . H I

LC STN Files: CA, CAPLUS

CRN (62777-34-8)

Absolute stereochemistry.

Double bond geometry unknown.



● HI

1 REFERENCES IN FILE CA (1967 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 83:58855 Pharmaceutical cephalosporins. Yoshioka, Mitsuru; Sendo, Yuji; Murakami, Masayuki; Miyazaki, Sadao; Ishikura, Koji (Shionogi and Co., Ltd., Japan). Ger. Offen. DE 2450618 19750430, 56 pp. (German).

CODEN: GWXXBX. PRIORITY: JP 1973-120328 19731025.

GI For diagram(s), see printed CA Issue.

AB Approx. 60 bactericides (no data) I (e.g., R1 = 2-thienyl, PhCH(NH2), PhCH2, 2-furyl; R2, R3 = H, Et, allyl, Ph; NR2R3 = morpholino) were prepd.

in 41-100% yield by treatment of II with H2NNHC(:NH)NR2R3. P-nitrophenyl 3-formyl-7-tert-butoxycarbonylamino-3-cephem-4-carboxylate reacted with 4,4-(3-oxopentamethylene)guanylhydrazine-HBr and THF for 16.5 hr at room temp. to give 72% of the

3-[[4,4-(3-oxopentamethylene)guanylhydrazono]methyl] cephem deriv.

L3 ANSWER 140 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 56204-01-4 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 3-[[[imino(3-methyl-4-morpholinyl)methyl]hydrazono]methyl]-8-oxo-7-[(2-thienylacetyl)amino]-, monohydriodide, [6R-(6.alpha.,7.beta.)]- (9CI)

(CA

INDEX NAME)

FS STEREOSEARCH

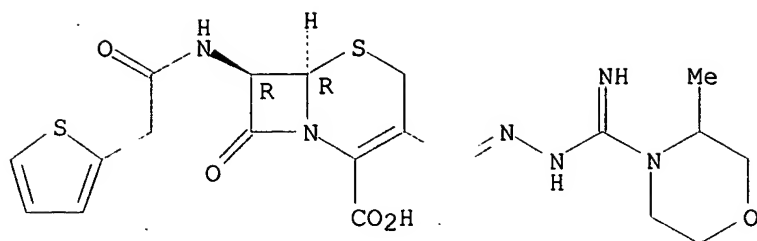
MF C20 H24 N6 O5 S2 . H I

LC STN Files: CA, CAPLUS

CRN (62777-33-7)

Absolute stereochemistry.

Double bond geometry unknown.



● HI

1 REFERENCES IN FILE CA (1967 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 83:58855 Pharmaceutical cephalosporins. Yoshioka, Mitsuru; Sendo, Yuji; Murakami, Masayuki; Miyazaki, Sadao; Ishikura, Koji (Shionogi and Co., Ltd., Japan). Ger. Offen. DE 2450618 19750430, 56 pp. (German).

CODEN: GWXXBX. PRIORITY: JP 1973-120328 19731025.

GI For diagram(s), see printed CA Issue.

AB Approx. 60 bactericides (no data) I (e.g., R1 = 2-thienyl, PhCH(NH2), PhCH2, 2-furyl; R2, R3 = H, Et, allyl, Ph; NR2R3 = morpholino) were prepd.

in 41-100% yield by treatment of II with H2NNHC(:NH)NR2R3. P-nitrophenyl 3-formyl-7-tert-butoxycarbonylamino-3-cephem-4-carboxylate reacted with 4,4-(3-oxopentamethylene)guanyldiazine-HBr and THF for 16.5 hr at room temp. to give 72% of the

3-[[4,4-(3-oxopentamethylene)guanyldiazono]methyl] cephem deriv.

L3 ANSWER 141 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 56204-00-3 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 3-[[[imino(2-methyl-4-morpholinyl)methyl]hydrazono]methyl]-8-oxo-7-[(2-thienylacetyl)amino]-, [6R-(6.alpha.,7.beta.)]- (9CI) (CA INDEX NAME)

FS STEREOSEARCH

MF C20 H24 N6 O5 S2

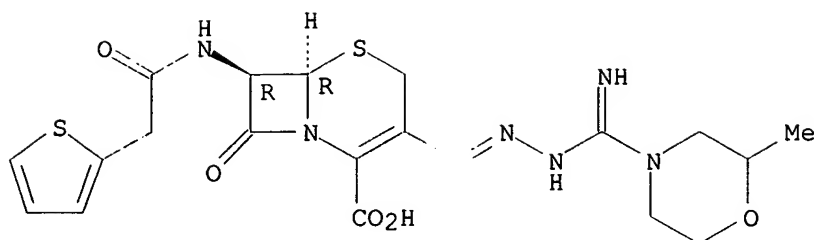
CI COM

LC STN Files: BEILSTEIN\*, CA, CAPLUS

(\*File contains numerically searchable property data)

Absolute stereochemistry.

Double bond geometry unknown.



1 REFERENCES IN FILE CA (1967 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 83:58855 Pharmaceutical cephalosporins. Yoshioka, Mitsuru; Sendo, Yuji; Murakami, Masayuki; Miyazaki, Sadao; Ishikura, Koji (Shionogi and Co., Ltd., Japan). Ger. Offen. DE 2450618 19750430, 56 pp. (German).

CODEN: GWXXBX. PRIORITY: JP 1973-120328 19731025.

GI For diagram(s), see printed CA Issue.

AB Approx. 60 bactericides (no data) I (e.g., R1 = 2-thienyl, PhCH(NH2), PhCH2, 2-furyl; R2, R3 = H, Et, allyl, Ph; NR2R3 = morpholino) were prepd.

in 41-100% yield by treatment of II with H2NNHC(:NH)NR2R3. P-nitrophenyl 3-formyl-7-tert-butoxycarbonylamino-3-cephem-4-carboxylate reacted with 4,4-(3-oxopentamethylene)guanyldiazine-HBr and THF for 16.5 hr at room temp. to give 72% of the

3-[[4,4-(3-oxopentamethylene)guanyldiazono]methyl] cephem deriv.

L3 ANSWER 142 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 56203-99-7 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 3-[[[(ethylamino)-4-morpholinylmethylene]hydrazono]methyl]-8-oxo-7-[(2-thienylacetyl)amino]-, monohydriodide, (6R-trans)- (9CI) (CA INDEX NAME)

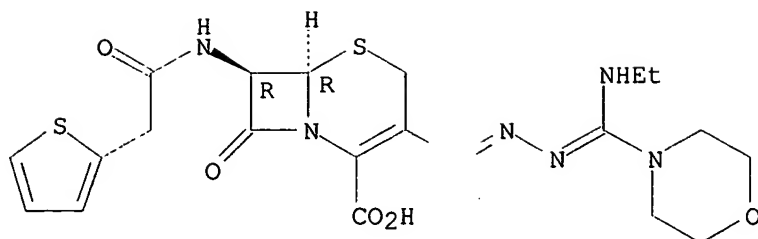
FS STEREOSEARCH

MF C21 H26 N6 O5 S2 . H I

LC STN Files: CA, CAPLUS

Absolute stereochemistry.

Double bond geometry unknown.



● HI

1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 83:58855 Pharmaceutical cephalosporins. Yoshioka, Mitsuru; Sendo, Yuji; Murakami, Masayuki; Miyazaki, Sadao; Ishikura, Koji (Shionogi and Co., Ltd., Japan). Ger. Offen. DE 2450618 19750430, 56 pp. (German).

CODEN: GWXXBX. PRIORITY: JP 1973-120328 19731025.

GI For diagram(s), see printed CA Issue.

AB Approx. 60 bactericides (no data) I (e.g., R<sub>1</sub> = 2-thienyl, PhCH(NH<sub>2</sub>), PhCH<sub>2</sub>, 2-furyl; R<sub>2</sub>, R<sub>3</sub> = H, Et, allyl, Ph; NR<sub>2</sub>R<sub>3</sub> = morpholino) were prepd.

in 41-100% yield by treatment of II with H<sub>2</sub>NNHC(:NH)NR<sub>2</sub>R<sub>3</sub>. P-nitrophenyl 3-formyl-7-tert-butoxycarbonylamino-3-cephem-4-carboxylate reacted with 4,4-(3-oxopentamethylene)guanyldiazine-HBr and THF for 16.5 hr at room temp. to give 72% of the

3-[[4,4-(3-oxopentamethylene)guanyldiazono]methyl] cephem deriv.

L3 ANSWER 143 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 56203-98-6 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 3-[[[(imino-4-morpholinylmethyl)hydrazono]methyl]-8-oxo-7-[(2-thienylacetyl)amino]-, monohydriodide, (6R-trans)- (9CI) (CA INDEX NAME)

FS STEREOSEARCH

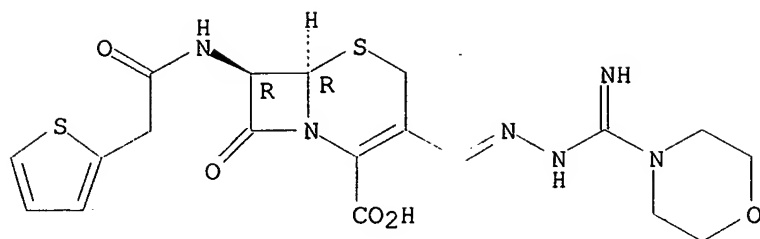
MF C19 H22 N6 O5 S2 . H I

LC STN Files: CA, CAPLUS

CRN (62733-20-4)

Absolute stereochemistry.

Double bond geometry unknown.



● HI

1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 83:58855 Pharmaceutical cephalosporins. Yoshioka, Mitsuru; Sendo, Yuji; Murakami, Masayuki; Miyazaki, Sadao; Ishikura, Koji (Shionogi and Co., Ltd., Japan). Ger. Offen. DE 2450618 19750430, 56 pp. (German).

CODEN: GWXXBX. PRIORITY: JP 1973-120328 19731025.

GI For diagram(s), see printed CA Issue.

AB Approx. 60 bactericides (no data) I (e.g., R1 = 2-thienyl, PhCH(NH2), PhCH2, 2-furyl; R2, R3 = H, Et, allyl, Ph; NR2R3 = morpholino) were prepd.

in 41-100% yield by treatment of II with H2NNHC(:NH)NR2R3. P-nitrophenyl 3-formyl-7-tert-butoxycarbonylamino-3-cephem-4-carboxylate reacted with 4,4-(3-oxopentamethylene)guanyldiazono-HBr and THF for 16.5 hr at room temp. to give 72% of the

3-[[4,4-(3-oxopentamethylene)guanyldiazono]methyl] cephem deriv.

L3 ANSWER 144 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 56203-97-5 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 3-[[[(imino-4-morpholinylmethyl)hydrazono]methyl]-8-oxo-7-[(2-thienylacetyl)amino]-, monohydrobromide, (6R-trans)- (9CI) (CA INDEX NAME)

FS STEREOSEARCH

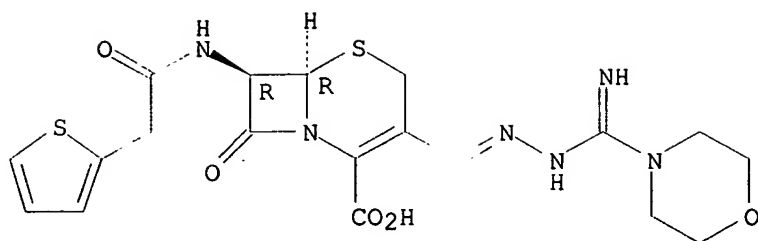
MF C19 H22 N6 O5 S2 . Br H

LC STN Files: CA, CAPLUS

CRN (62733-20-4)

Absolute stereochemistry.

Double bond geometry unknown.



● HBr

1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 83:58855 Pharmaceutical cephalosporins. Yoshioka, Mitsuru; Sendo, Yuji; Murakami, Masayuki; Miyazaki, Sadao; Ishikura, Koji (Shionogi and Co., Ltd., Japan). Ger. Offen. DE 2450618 19750430, 56 pp. (German).

CODEN: GWXXBX. PRIORITY: JP 1973-120328 19731025.

GI For diagram(s), see printed CA Issue.

AB Approx. 60 bactericides (no data) I (e.g., R1 = 2-thienyl, PhCH(NH2), PhCH2, 2-furyl; R2, R3 = H, Et, allyl, Ph; NR2R3 = morpholino) were prepd.

in 41-100% yield by treatment of II with H2NNHC(:NH)NR2R3. P-nitrophenyl 3-formyl-7-tert-butoxycarbonylamino-3-cephem-4-carboxylate reacted with 4,4-(3-oxopentamethylene)guanyldiazine-HBr and THF for 16.5 hr at room temp. to give 72% of the

3-[[4,4-(3-oxopentamethylene)guanyldiazono]methyl] cephem deriv.

L3 ANSWER 145 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 56203-96-4 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 3-[[[(hexahydro-1H-azepin-1-yl)iminomethyl]hydrazono]methyl]-8-oxo-7-[(2-thienylacetyl)amino]-, monohydriodide, (6R-trans)- (9CI) (CA INDEX NAME)

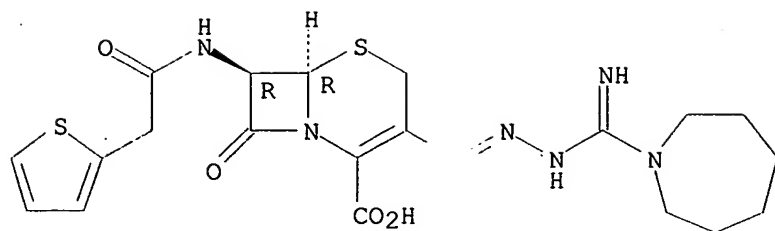
FS STEREOSEARCH

MF C21 H26 N6 O4 S2 . H I

LC STN Files: CA, CAPLUS

Absolute stereochemistry.

Double bond geometry unknown.



● HI

1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 83:58855 Pharmaceutical cephalosporins. Yoshioka, Mitsuru; Sendo, Yuji; Murakami, Masayuki; Miyazaki, Sadao; Ishikura, Koji (Shionogi and Co., Ltd., Japan). Ger. Offen. DE 2450618 19750430, 56 pp. (German).

CODEN: GWXXBX. PRIORITY: JP 1973-120328 19731025.

GI For diagram(s), see printed CA Issue.

AB Approx. 60 bactericides (no data) I (e.g., R1 = 2-thienyl, PhCH(NH2), PhCH2, 2-furyl; R2, R3 = H, Et, allyl, Ph; NR2R3 = morpholino) were prepd.

in 41-100% yield by treatment of II with H2NNHC(:NH)NR2R3. P-nitrophenyl 3-formyl-7-tert-butoxycarbonylamino-3-cephem-4-carboxylate reacted with 4,4-(3-oxopentamethylene)guanyldiazine-HBr and THF for 16.5 hr at room temp. to give 72% of the

3-[[4,4-(3-oxopentamethylene)guanyldiazono]methyl] cephem deriv.

L3 ANSWER 146 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 56203-95-3 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 3-[[[(3,6-dihydro-1(2H)-pyridinyl)iminomethyl]hydrazono]methyl]-8-oxo-7-[(2-thienylacetyl)amino]-, (6R-trans)- (9CI) (CA INDEX NAME)

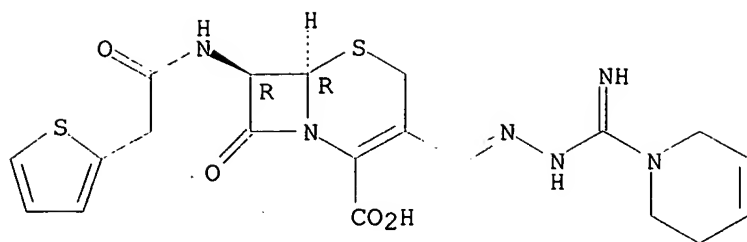
FS STEREOSEARCH

MF C20 H22 N6 O4 S2

LC STN Files: BEILSTEIN\*, CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL (\*File contains numerically searchable property data)

Absolute stereochemistry.

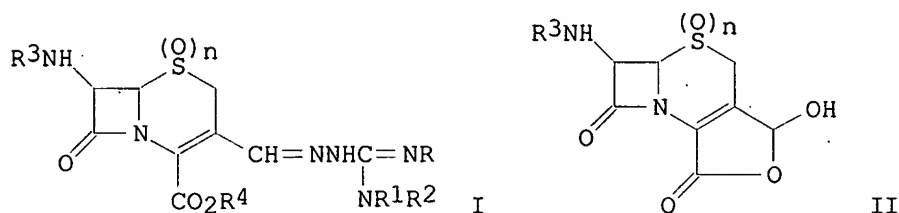
Double bond geometry unknown.



2 REFERENCES IN FILE CA (1967 TO DATE)  
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 86:189975 Cephalosporin compounds. Yoshioka, Mitsuru; Murakami, Masayuki; Sendo, Yuji; Miyazaki, Sadao; Ishikura, Koji (Shionogi and Co., Ltd., Japan). U.S. US 3997528 19761214, 23 pp. (English). CODEN: USXXAM. PRIORITY: JP 1973-12032 19731025.

GI



AB The antibacterial (no data) (guanyldiazono)cephalosporins I (R, R1, R2 = alkyl, alkenyl, aralkyl, aryl, NH2, MeO; NR1R2 = N-heterocyclic, i.e. morpholino, piperidino; RR1 = CH2CH2; R3 = H, thienylacetyl, PhOCH2CO, H2NCHPhCO, PhCH2CO, furylacetyl, tetrazolylacetyl, Me3CCO2C, Cl3CCH2O2C; R4 = H; n = 1, 0) and their salts were prepd. by treating the hemiacetal lactones II with H2NNHC(NR1R2):NR (III). I (R4 = 4-O2NC6H4CH2, Ph2CH, Me) were prepd. by treating 3-formylcephem-4-carboxylates with III.

REFERENCE 2: 83:58855 Pharmaceutical cephalosporins. Yoshioka, Mitsuru; Sendo, Yuji; Murakami, Masayuki; Miyazaki, Sadao; Ishikura, Koji (Shionogi and Co., Ltd., Japan). Ger. Offen. DE 2450618 19750430, 56 pp. (German). CODEN: GWXXBX. PRIORITY: JP 1973-120328 19731025.

GI For diagram(s), see printed CA Issue.

AB Approx. 60 bactericides (no data) I (e.g., R1 = 2-thienyl, PhCH(NH2), PhCH2, 2-furyl; R2, R3 = H, Et, allyl, Ph; NR2R3 = morpholino) were prepd.

in 41-100% yield by treatment of II with H2NNHC(:NH)NR2R3. P-nitrophenyl 3-formyl-7-tert-butoxycarbonylamino-3-cephem-4-carboxylate reacted with

Prepared by M. Hale 308-4258

Page 253

4,4-(3-oxopentamethylene)guanylhiazine-HBr and THF for 16.5 hr at room temp. to give 72% of the  
 3-[[[4,4-(3-oxopentamethylene)guanylhiazono]meth  
 yl] cephem deriv.

L3 ANSWER 147 OF 148 REGISTRY COPYRIGHT 2000 ACS

RN 56203-94-2 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, .

3-[[[(2,5-dihydro-1H-pyrrol-1-yl)iminomethyl]hydrazono]methyl]-8-oxo-7-[(2-thienylacetyl)amino]-, monohydriodide, (6R-trans)- (9CI) (CA INDEX NAME)

FS STEREOSEARCH

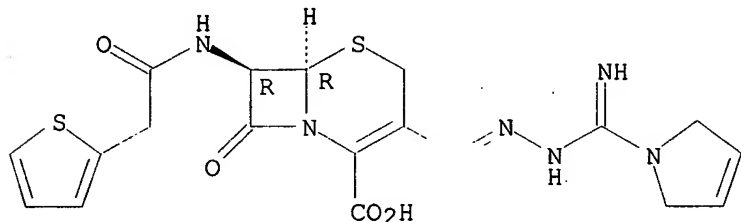
MF C19 H20 N6 O4 S2 . H I

LC STN Files: CA, CAPLUS

CRN (62733-18-0)

Absolute stereochemistry.

Double bond geometry unknown.



● HI

1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 83:58855 Pharmaceutical cephalosporins. Yoshioka, Mitsuru; Sendo, Yuji; Murakami, Masayuki; Miyazaki, Sadao; Ishikura, Koji (Shionogi and Co., Ltd., Japan). Ger. Offen. DE 2450618 19750430, 56 pp. (German).

CODEN: GWXXBX. PRIORITY: JP 1973-120328 19731025.

GI For diagram(s), see printed CA Issue.

AB Approx. 60 bactericides (no data) I (e.g., R1 = 2-thienyl, PhCH(NH2), PhCH2, 2-furyl; R2, R3 = H, Et, allyl, Ph; NR2R3 = morpholino) were prepd.

in 41-100% yield by treatment of II with H2NNHC(:NH)NR2R3. P-nitrophenyl 3-formyl-7-tert-butoxycarbonylamino-3-cephem-4-carboxylate reacted with 4,4-(3-oxopentamethylene)guanylhiazine-HBr and THF for 16.5 hr at room temp. to give 72% of the

3-[[[4,4-(3-oxopentamethylene)guanylhiazono]meth  
 yl] cephem deriv.

L3 ANSWER 148 OF 148 REGISTRY COPYRIGHT 2000 ACS

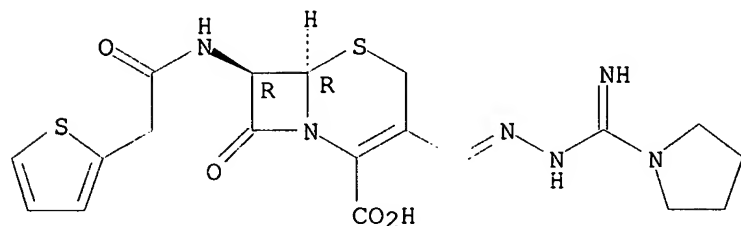
RN 56203-93-1 REGISTRY

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid,  
 Prepared by M. Hale 308-4258

3-[[[(imino-1-pyrrolidinylmethyl)hydrazono]methyl]-8-oxo-7-[(2-thienylacetyl)amino]-, monohydrobromide, (6R-trans)- (9CI) (CA INDEX NAME)

FS STEREOSEARCH  
MF C19 H22 N6 O4 S2 . Br H  
LC STN Files: CA, CAPLUS  
CRN (62733-16-8)

Absolute stereochemistry.  
Double bond geometry unknown.



● HBr

1 REFERENCES IN FILE CA (1967 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 83:58855 Pharmaceutical cephalosporins. Yoshioka, Mitsuru; Sendo, Yuji; Murakami, Masayuki; Miyazaki, Sadao; Ishikura, Koji (Shionogi and Co., Ltd., Japan). Ger. Offen. DE 2450618 19750430, 56 pp. (German).

CODEN: GWXXBX. PRIORITY: JP 1973-120328 19731025.

GI For diagram(s), see printed CA Issue.

AB Approx. 60 bactericides (no data) I (e.g., R1 = 2-thienyl, PhCH(NH2), PhCH2, 2-furyl; R2, R3 = H, Et, allyl, Ph; NR2R3 = morpholino) were prepd.

in 41-100% yield by treatment of II with H2NNHC(:NH)NR2R3. P-nitrophenyl 3-formyl-7-tert-butoxycarbonylamino-3-cephem-4-carboxylate reacted with 4,4-(3-oxopentamethylene)guanyldiazine-HBr and THF for 16.5 hr at room temp. to give 72% of the

3-[[[4,4-(3-oxopentamethylene)guanyldiazono]methyl] cephem deriv.

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